

ANJANA ARUNKUMAR

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 Bespoke Labs, 800 W El Camino, Suite 225, Mountain View, CA 94040

RESEARCH INTEREST

My research focuses on designing **adaptive, human-centered interfaces** that account for how **individual, cultural, linguistic,** and **cognitive** differences shape the way people engage with complex information and AI systems, and that respond to those differences in real time. I work at the intersection of **human-AI interaction, information visualization, data curation,** and **applied machine learning,** building systems that move beyond **static, one-size-fits-all paradigms** toward interfaces that surface model reasoning, expose data quality, and reconfigure based on user behavior. A core thread of my work is developing **human-in-the-loop tooling** that supports the people authoring, reviewing, and evaluating the data and environments that drive modern AI systems — ranging from large-scale multilingual benchmarks and real-time dataset quality assessment systems, to **visual analytics frameworks for the authoring and evaluation of reinforcement learning environments** used to train AI agents. In my current work at Bespoke Labs, I extend this to the **quality, diversity, and reliability measurement** of environment corpora, and to visualization tooling that makes environment and agent behavior **traceable, diagnosable, and auditable** for internal researchers and frontier-lab customers. Alongside this, I continue to work on **multilingual and multicultural interface design,** adaptive interfaces for domain experts, and visually-augmented AI systems for non-experts in statistics education. I am broadly interested in building interfaces that close the loop between **user behavior, model reasoning, and continuous adaptation,** supporting the populations and use cases that monolithic, prompt-driven systems most often fail.

WORK EXPERIENCE

Bespoke Labs

Member of Technical Staff

 June 2026 – present

 Bespoke Labs, Mountain View, California

- Developing **rubrics and quality control workflows** for the authoring, review, and fine-tuning of reinforcement learning environments
- Building a **visual analytics dashboard** to track project progress and quality signals across RL environment pipelines
- Designing an **artifact registry** for integration into RL environment pipelines
- Contributing to **customer-facing applied research and engineering** on data and evaluation projects with enterprise clients and AI research organizations
- **Supervisor:** Mahesh Sathiamoorthy

Northeastern University

Postdoctoral Research Associate

 June 2024 – June 2026

 Khoury College of Computer Sciences, Oakland, California

- Designing **adaptive, human-centered interfaces for information systems** that account for **multicultural, linguistic, and cognitive diversity,** moving beyond one-size-fits-all, chat-based paradigms toward AI-augmented interfaces that respond to how individual users actually engage
- Building **interpretability interfaces** that disambiguate AI outputs and reasoning for **non-experts,** enabling them to check, verify, and act on model outputs in everyday decision-making
- Investigating how natural language and visual explanations can together replace **prompt engineering** with **intent-driven, behaviorally adaptive** AI interaction
- **Supervisor:** Lace Padilla

EDUCATION

Arizona State University

Ph.D. in Computer Science

 August 2019 – May 2024

 School of Computing and Augmented Intelligence, Tempe, Arizona

- **Dissertation:** The D.U.C.K. Bridge: Empowering Non-Experts in Data Visualization. **Awardee** of Dean's Dissertation Award, ASU, 2024.
- **Committee:** Chris Bryan, Ross Maciejewski, Chitta Baral, Gi-Yeul Bae
- **Research Assistant** at Sonoran Visualization Laboratory, School of Computing and Augmented Intelligence.

Meenakshi Sundararajan Engineering College (Anna University)

B.E. in Computer Science and Engineering

📅 June 2015-May 2019

📍 Department of Computer Science, Chennai, Tamil Nadu, India

- Anna University **Gold Medal Recipient** (2015-19), for 1st Rank in B.E. Computer Science and Engineering amongst 15000 students
 - Published in **2 conferences** and **1 journal** as primary contributor.
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ACHIEVEMENTS

- **Awardee** of Honorable Mention in Full Paper Track at Eurovis Conference, 2026.
- **Awardee** of Dean's Dissertation Award, ASU, 2024.
- **Awardee** of Gerald Farin Memorial Fellowship, ASU, 2023.
- **Honorable Mention** in VAST challenge, 2020.
- **Finalist** in Undergraduate Poster competition, NEDSI 2018.

RESEARCH EXPERIENCE

Bespoke Labs

Member of Technical Staff

📅 June 2026 – present

📍 Bespoke Labs, Mountain View, California

- Investigating **quality measurement and evaluation methodology** for reinforcement learning environments, adapting **human-centered data quality frameworks** from benchmark construction to the authoring of agent training environments
- Designing **visual analytics tooling** to surface **diversity, coverage, and reward-integrity signals** across environment corpora, supporting authors, reviewers, and downstream customers in identifying quality issues before they enter training
- Extending **prior visualization research** on artifact detection (VAIDA, DQI) and instruction diversity (LINGO) to the **data and environment curation pipelines** that drive modern AI agent training
- Contributing to applied research on **data curation, quality control, and evaluation** for post-training of language and agent models

Northeastern University

Postdoctoral Research Associate

📅 June 2024 – June 2026

📍 Oakland, CA, USA

- Supervisor: Lace Padilla
 - Researching how **multicultural, linguistic, and cognitive factors** shape **human-AI interaction**, informing the design of **adaptive interfaces** that respond to user diversity rather than averaging it away
 - Capturing **multimodal interaction signals** (eye tracking, EEG, gesture, mind wandering) to model user intent, attention, and uncertainty — enabling interfaces that **learn from user behavior** rather than rely on explicit prompts
 - Leading **STEM Paths**, a **human-centered interface for AI mathematical reasoning** that makes model outputs **traceable, diagnosable, and interpretable** for non-expert users
 - Studying **multilingual interface design** (annotation strategies for bilingual audiences) to support populations underserved by English-centric AI systems
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Arizona State University

Graduate Researcher

📅 August 2019 – Present

📍 Tempe, AZ, USA

- Advisor: Chris Bryan
- Dissertation work (*The D.U.C.K. Bridge*) on **adaptive, accessible interfaces** that bridge AI/information systems with **non-expert users** — awarded the Dean's Dissertation Award (2024)
- Built **human-in-the-loop interfaces** for AI development, including **LINGO** (visually debiasing natural language instructions for LLMs), **VAIDA** (real-time visual feedback for benchmark creation), and **PMU Tracker** (interactive AI-assisted analysis for power-grid operators)
- Co-designed **VizCoach** (HICSS 2026), an **orchestration-based adaptive interface** for visualization education — replacing low-level coding with **intent-driven, no-code interaction** and supporting real-time, user-state-aware classroom workflows

- Researched **human-AI interaction**, visual cognition, and natural-language interaction at the Sonoran Visualization Laboratory; led lab meetings, mentored 15+ graduate and undergraduate researchers, and contributed to grant writing

National Renewable Energy Laboratory

Graduate Student Intern

📅 June 2023 – August 2023

📍 Golden, CO, USA

- Mentor: Kristi Potter, Samantha Molnar
- Built an adaptive interface that infers user uncertainty from interaction signals (touch gesture tracking) and auto-reconfigures spatiotemporal visualization appearance in real time to enable to power system anomaly tracking
- Validated the interface through a human-subjects study with power-system operators, confirming elimination of the need for explicit user prompts to resolve viewing difficulties.

Paragon Digital Services Pvt. Ltd., Dentsu Aegis

Undergraduate Student Intern

📅 December 2018 – April 2019

📍 Chennai, TN, India

- Mentor: Naresh Ninavarapu
- Use of **R**, **Python** to implement intelligent client-product recommendation interface via **abstractive summarization**.
- Performing **granular sentiment detection**, using a recurrent neural network approach, over a dataset of online reviews for Slack.
- Building a client interface, flagging sentiments and sarcasm in opinion units, and generating an **interactive visualization** dashboard of the same.

Paragon Digital Services Pvt. Ltd., Dentsu Aegis

Undergraduate Student Intern

📅 June 2018 - August 2018

📍 Chennai, TN, India

- Mentor: Naresh Ninavarapu
- Training in Data Analysis Techniques, **Digital Marketing and Business Intelligence Tools**.
- Analysis of chain stores for profit analysis and factors: use of **Tableau and SQL** to make **recommendations** regarding marketing strategies for client products.
- **Survey design and ad campaign structuring** for an image publishing service company using Google Data Studio.
- Use of **R tool/Python** to implement classification algorithms on data sets for an optical wear company.

Meenakshi Sundararajan Engineering College (Anna University)

Undergraduate Researcher

📅 June 2017 – May 2019

📍 Chennai, TN, India

- Advisor: M.K. Sandhya
- Undergraduate research on sentiment analysis and visualization of natural language product reviews, to generate abstractive summarizations for client reports. Organized inter-college research symposiums to showcase departmental work. Also chief editor of department's monthly newsletter, Techie Talk.

TEACHING EXPERIENCE

Guest Lecturer

Data Visualization, CSE 478 and 578

📅 Spring 2024

📍 Arizona State University

Instructor: Chris Bryan Lectures on real-world impact of visualizations complimentary to theory concepts from the main class curriculum, including visualization design technologies, impact of natural language and visual cognition on data comprehension, how visualizations can be used to spread misinformation, and developing visualization pedagogy for low data-literacy populations. The material was developed to promote the discussion of current visualization research questions and proposed solutions in literature.

Instructor

Introduction to Programming Languages, CSE 240 (Online)

📅 Spring 2024

📍 Arizona State University

Lead instructor (300 students) teaching fundamentals of diverse paradigms of programming languages, including procedural (Language C), object-oriented (Language C++), functional (Language LISP), and logic (Language Prolog) paradigm. My responsibilities include holding online office hours for three hours per week, mentoring undergraduate student projects, and grading assignments. The curriculum and assignments were designed by ASU Online facilitators.

Teaching Assistant

Data Visualization, CSE 578

📅 Fall 2022

📍 Arizona State University

Instructor: Chris Bryan Students learn about techniques and algorithms for creating effective visualizations based on principles from graphic design, visual art, perceptual psychology and cognitive science to enhance the understanding of complex data. My responsibilities included holding office hours, and mentoring independent graduate student projects intended for workshop/main conference publication (HTML, JavaScript, D3, AWS, NodeJS, Python).

Teaching Assistant

Database Management, CSE 412

📅 Fall 2019

📍 Arizona State University

Instructor: Mutsumi Nakamura Students are introduced to DBMS concepts. Data models and languages. Relational database theory. Database security/integrity and concurrency. My responsibilities included grading assignments, holding office hours, mentoring student projects, and leading a two-hour recitation session every week teaching the DBMS setup and queries (SQL, SCALA, R).

Teaching Assistant

Data Structures and Algorithms, CSE 310

📅 Fall 2019

📍 Arizona State University

Instructor: Yingzhen Yang Students learn about advanced data structures and algorithms, including stacks, queues, trees (B, B+, AVL), and graphs. Searching for graphs, hashing, external sorting. My responsibilities included grading assignments, holding office hours, and leading a two-hour recitation session every week teaching the algorithm implementations and case study problems (Visual Studio, C++).

STUDENT MENTORING

- Wen Xu (Spring 2026 – Summer 2026); Project: Visualizing in the Mind's Eye: Concrete Icons Suppress Mental Imagery of Fire Risks; *Graduate Student at Northeastern*
- Shira Michel (Spring 2025 – Spring 2026); Project: Diagnosing AI-errors in STEM problems; *Graduate Student at Northeastern*
- Jinhan Park (Fall 2024); Project: Reviewing and Designing Visual Patient Decision Aids; *Undergraduate Student at Northeastern*
- Chase Stokes (Summer 2024 – Summer 2025); Project: Identifying the Role of Text in Data Visualization; *Graduate Student at UC Berkley*
- Zhuojun Jiang (Fall 2024 – Present); Project: Designing Visualizations for Color-Deficient Vision that Inspire Emotional Engagement; *Graduate Student at ASU*
- Agastya Seth, Yang Husurianto (Fall 2023 – Spring 2024); Project: Visualization of Natural Language Argumentation; *Graduate Student at ASU*
- Arshdeep Sachdeva, Dhruvil Joshi, Vedant Vijay Parikh (Spring 2023 – Present) ; Project: Developing a Visualization Authoring Tool using Natural Language Prompts; *Graduate Student at ASU*
- Jai Narula (Fall 2022 – Spring 2026) ; Project: VizCoach - a no-code, orchestration-based platform for visualization education (published, HICSS 2026); *Graduate Student at ASU*
- Jaimie Liu (Fall 2021 – Spring 2022) ; Project: Visualization of Climate Change Data in Immersive and Desktop Virtual Reality; *Undergraduate Student at ASU*
- Jose Elenes (Fall 2021 – Spring 2022) ; Project: Visualization of Drone Flight Anomalies; *Graduate Student at ASU*
- Shubham Sharma, Rakhi Agarwal, Sriram Chandrasekaran (Fall 2021 – Spring 2022) ; Project: Visualization of Data Bias in Natural Language Instructions and Prompts; *Graduate Student at ASU*

- Bhavdeep Sachdeva (Fall 2019 – Spring 2021) ; Project: Designing a Data Quality Index for Natural Language Datasets; *Graduate Student at ASU*
- Shashank Ginpalli (Fall 2020 – Spring 2021) ; Project: Modelling the Complexity of Flow Diagrams; *Graduate Student at ASU*
- Nitin Gupta (Fall 2019 – Spring 2020) ; Project: Designing Visualizations for Power System Substations; *Undergraduate Student at ASU*

PUBLICATIONS – PEER REVIEWED JOURNAL PUBLICATIONS

1. Parts Measured, Persons Missed: A Profile-Centered Account of Visualization User Experience 📌
Anjana Arunkumar* and Lace Padilla
[IEEE Transactions on Visualization and Computer Graphics, 2026](#)
2. Visualizing in the Mind's Eye: Icon Design Shapes Mental Imagery of Fire Risks 📌
Wen Xu*, Anjana Arunkumar, and Lace Padilla
[IEEE Transactions on Visualization and Computer Graphics, 2026](#)
3. Engagement vs. Understanding: Comparing Immersive Virtual Reality and Desktop Displays for Climate Data Visualization 📌**Honorable Mention, Eurovis 2026**
Anjana Arunkumar*, Jaimie Liu, and Chris Bryan
[Computer Graphics Forum, 2026](#)
4. Evaluating Cluster Dendrograms for Spatiotemporal Anomaly Tracking 📌
Anjana Arunkumar* and Chris Bryan
[Computer Graphics Forum, 2026](#)
5. An Analysis of Text Functions in Information Visualization 📌¹
Chase Stokes, Anjana Arunkumar, Lace Padilla, and Marti Hearst
[IEEE Transactions on Visualization and Computer Graphics, 2025](#)
6. The Hue-Man Factor: An Empirical Evaluation of Visualization Perception and Accessibility Across Color Vision Profiles 📌
Zhuojun Jiang, Anjana Arunkumar, and Chris Bryan
[IEEE Transactions on Visualization and Computer Graphics, 2025](#)
7. Modeling and Measuring the Chart Communication Recall Process 📌
Anjana Arunkumar*, Lace Padilla, and Chris Bryan
[Computer Graphics Forum, 2025](#)
8. Lost in Translation: How Does Bilingualism Shape Reader Preferences for Annotated Charts? 📌
Anjana Arunkumar*, Lace Padilla, and Chris Bryan
[ACM SIGCHI 2025](#)
9. Mind Drifts, Data Shifts: Utilizing Mind Wandering to Track the Evolution of User Experience with Data Visualizations 📌
Anjana Arunkumar*, Lace Padilla, and Chris Bryan
[IEEE Transactions on Visualization and Computer Graphics, 2024](#)
10. Comparing Collaborative Visualization Behaviors in Desktop and Augmented Reality Environments
Michael Kintscher, Jinbin Huang, Anjana Arunkumar, Ashish Amresh, and Chris Bryan
[Proceedings of the ACM Symposium on Virtual Reality Software and Technology, 2023](#)
11. Image or Information? Examining the Nature and Impact of Visualization Perceptual Classification 📌
Anjana Arunkumar*, Lace Padilla, Gi-Yeul Bae, and Chris Bryan
[IEEE Transactions on Visualization and Computer Graphics, 2023](#)
12. LINGO: Visually Debiasing Natural Language Instructions to Support Task Diversity 📌
Anjana Arunkumar*, Shubham Sharma, Rakhi Agrawal, Sriram Chandrasekaran, and Chris Bryan
[Computer Graphics Forum, 2023](#)
13. PMU Tracker: A Visualization Platform for Epicentric Event Propagation Analysis in the Power Grid 📌
Anjana Arunkumar*, Andrea Pinceti, Lalitha Sankar, and Chris Bryan
[IEEE Transactions on Visualization and Computer Graphics, 2022](#)
14. PMUVis: A Large Scale Platform to Assist Power System Operators in a Smart Grid
Anjana Arunkumar*, Nitin Gupta, Andrea Pinceti, Lalitha Sankar, and Chris Bryan
[IEEE Computer Graphics and Applications, 2022](#)
15. Bayesian Modelling of Alluvial Diagram Complexity 📌
Anjana Arunkumar*, Shashank Ginpalli, and Chris Bryan.
[IEEE Transactions on Visualization and Computer Graphics, 2021](#)

PUBLICATIONS – PEER REVIEWED CONFERENCE PUBLICATIONS (FULL PAPER)

¹📌 indicates a conference presentation

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1. VizCoach: Designing an Orchestration-Based Tool for Data Visualization Education *Shubham Chawla, Michael Kintscher, Jai Narula, **Anjana Arunkumar**, Ashish Amresh, and Chris Bryan*
[Hawaii International Conference on System Sciences, 2026](#)
 2. Design-Decision Fit: Modeling How Visualization Quality Mediates Supply Chain Task Performance ♣
Anjana Arunkumar*, Arunkumar Madapusi, Lace Padilla, and Spencer Castro
[Decision Sciences Institute Annual Conference, 2025](#)
 3. Real-Time Visual Feedback to Guide Benchmark Creation: A Human-and-Metric-in-the-Loop Workflow ♣
Anjana Arunkumar*, Swaroop Mishra, Bhavdeep Sachdeva, Chitta Baral, and Chris Bryan
[Proceedings of the Conference of the European Chapter of the Association for Computational Linguistics, 2023](#)
 4. Benchmarking Generalization via In-Context Instructions on 1,600+ Language Tasks.
Swaroop Mishra*, Yizhong Wang*, Pegah Alipoormolabashi, Yeganeh Kordi, Amirreza Mirzaei, **Anjana Arunkumar et. al.**, Chitta Baral, Yejin Choi, Noah A. Smith, Hannaneh Hajishirzi, Daniel Khashabi
[Proceedings of the Conference on Empirical Methods in Natural Language Processing, 2022](#)
 5. How Robust are Model Rankings : A Leaderboard Customization Approach for Equitable Evaluation ♣
Swaroop Mishra*, **Anjana Arunkumar***
[Proceedings of the AAAI Conference on Artificial Intelligence, 2021](#)
 6. Abstractive Summarization Through Sentiment Analysis Of User Product Reviews - An RNN Approach ♣
Anjana Arunkumar*, Sandhya, M.K.
[Decision Sciences Institute Annual Conference, 2019](#)
 7. Active Learning Methodology: Bridging Theory and Practice ♣
Anjana Arunkumar*, Sandhya, M.K.*, Arunkumar Madapusi*
[Southwest Decision Sciences Institute Annual Conference, 2019](#)

PUBLICATIONS – PEER REVIEWED CONFERENCE PUBLICATIONS (EXTENDED ABSTRACT)

1. AI Tutor or Human Tutor? Source Attribution and Trust Calibration in Supply Chain Analytics Learning ♣
Anjana Arunkumar*, Arunkumar Madapusi, Daniel Ortiz
[Decision Sciences Institute Annual Conference, 2026](#)
2. Source Attribution in AI-Assisted Supply Chain Decisions: How Managers Respond to AI- Versus Human-Labeled Recommendations ♣
Anjana Arunkumar*, Arunkumar Madapusi, Daniel Ortiz
[Decision Sciences Institute Annual Conference, 2026](#)
3. Systemic Enterprise System Implementations and Organizational Performance ♣
Anjana Arunkumar* and Arunkumar Madapusi
[Decision Sciences Institute Annual Conference, 2026](#)
4. Determinants of Enterprise System Deployment Success in Small and Medium Enterprises ♣
Anjana Arunkumar* and Arunkumar Madapusi
[Decision Sciences Institute Annual Conference, 2026](#)
5. Examining Adaptive Visualization Approaches for Supply Chain Resilience and UAV-Enabled Logistics ♣
Anjana Arunkumar*, Arunkumar Madapusi, Daniel Ortiz
[Southwest Decision Sciences Institute Annual Conference, 2026](#)
6. Examining the Effects of Task-Design Fit on Decision Quality in Supply Chain Analytics ♣
Anjana Arunkumar*, Arunkumar Madapusi, Daniel Ortiz
[Southwest Decision Sciences Institute Annual Conference, 2026](#)
7. Designing for Trust: Source Attribution Effects in AI-Augmented Data Visualization ♣
Anjana Arunkumar*, Arunkumar Madapusi, Daniel Ortiz
[Data Science, Machine Learning & AI Specific Interest Group at Decision Sciences Institute Annual Conference, 2025](#)
8. Leveraging Data Visualizations to Mitigate In-Group Bias in Crowdfunding: Promoting Equity and Inclusivity Across Campaigner Demographics ♣
Anjana Arunkumar*, Daniel Ortiz, Arunkumar Madapusi
[Decision Sciences Institute Annual Conference, 2024](#)
9. Enhancing Trust in Startup Investments: Leveraging Data Visualizations for Unbiased Funding for Female Entrepreneurs ♣
Anjana Arunkumar*, Daniel Ortiz, Arunkumar Madapusi
[Decision Sciences Institute Annual Conference, 2024](#)
10. Exploring the Influence of Visual Features and Emotion-driven Perception on Decision Quality in Visualizations ♣
Anjana Arunkumar*, Daniel Ortiz, Arunkumar Madapusi
[Southwest Decision Sciences Institute Annual Conference, 2024](#)
11. Exploring Visual Feature Variation and Decision-maker Judgment in Educational Simulation Visualizations: A Theory-based Approach ♣

- Anjana Arunkumar***, Daniel Ortiz, Arunkumar Madapusi
[Southwest Decision Sciences Institute Annual Conference, 2024](#)
12. Examining the Effect of Visualization Proxemics on Decision Making using Touchscreen Dashboards 📌
Anjana Arunkumar*, Daniel Ortiz, Arunkumar Madapusi
[Decision Sciences Institute Annual Conference, 2023](#)
 13. Automated Construction of Business Intelligence Dashboards Using Artificial Intelligence Tools 📌
Anjana Arunkumar*, Daniel Ortiz, Arunkumar Madapusi
[Decision Sciences Institute Annual Conference, 2023](#)
 14. Examining The Effects of Visual Redundancy on Understanding Uncertainty Representations in Schedule Risk Analysis 📌
Anjana Arunkumar*, Daniel Ortiz, and Arun Madapusi
[Southwest Decision Sciences Institute Annual Conference, 2023](#)
 15. Examining the Effect of Reconfiguration Interactions on Understanding Uncertainty in Supply Chain Disruption 📌
Anjana Arunkumar*, Daniel Ortiz, and Arun Madapusi
[Southwest Decision Sciences Institute Annual Conference, 2023](#)
 16. Examining the Effect of Visual Redundancy on the Understanding of Visualizations in Procurement and Sourcing 📌
Anjana Arunkumar*, Daniel Ortiz, Arunkumar Madapusi
[Decision Sciences Institute Annual Conference, 2022](#)
 17. Examining the Effect of Reconfiguration Interactions on the Understanding of Anomalies in Supply Chain Management 📌
Anjana Arunkumar*, Daniel Ortiz, Arunkumar Madapusi
[Decision Sciences Institute Annual Conference, 2022](#)
 18. Evaluation of Visual Uncertainty Representations in Schedule Risk Analysis 📌
Anjana Arunkumar*, Daniel Ortiz, Arunkumar Madapusi
[Midwest Decision Sciences Institute Annual Conference, 2022](#)
 19. Modelling the Complexity of Risk Centered Supply Chain Network Visualization 📌
Anjana Arunkumar*, Daniel Ortiz, Arunkumar Madapusi
[Midwest Decision Sciences Institute Annual Conference, 2022](#)
 20. Impact of Uncertainty Representation on Decision Making for Business Network Visualization 📌
Anjana Arunkumar*, Daniel Ortiz, Arunkumar Madapusi
[Decision Sciences Institute Annual Conference, 2021](#)
 21. Bayesian Modelling of Uncertainty in Schedule Risk Analysis using Gantt Charts 📌
Anjana Arunkumar*, Daniel Ortiz, Arunkumar Madapusi
[Decision Sciences Institute Annual Conference, 2021](#)
 22. Modelling the Complexity of Supply Chain Network Visualization 📌
Anjana Arunkumar*, Daniel Ortiz, Arunkumar Madapusi
[Decision Sciences Institute Annual Conference, 2021](#)
 23. Strategy-Enterprise System Alignment and Firm Performance 📌
Anjana Arunkumar*, Arunkumar Madapusi*
[Northeast Decision Sciences Institute Annual Conference, 2021](#)
 24. Investigating the Influence of Top Management Support in Systemic Enterprise System Deployments 📌
Anjana Arunkumar*, Arunkumar Madapusi*
[Decision Sciences Institute Annual Conference, 2020](#)
 25. Examining Data Visualization's Impact on Decision Making 📌
Anjana Arunkumar*, Arunkumar Madapusi
[Decision Sciences Institute Annual Conference, 2020](#)
 26. Investigating the Influence of Chart Embellishment on Decision Making 📌
Anjana Arunkumar*, Arunkumar Madapusi
[Decision Sciences Institute Annual Conference, 2020](#)
 27. Integration Mechanisms, Absorptive Capacity, & Enterprise Systems 📌
Anjana Arunkumar*, Arunkumar Madapusi*
[Decision Sciences Institute Annual Conference, 2019](#)
 28. Relational Capital & Enterprise Systems 📌
Anjana Arunkumar*, Arunkumar Madapusi*
[Decision Sciences Institute Annual Conference, 2019](#)
 29. The Role of Consultants in Enterprise Systems 📌
Anjana Arunkumar*, Arunkumar Madapusi*
[Decision Sciences Institute Annual Conference, 2019](#)
 30. ES Configurations and their Impact on firm Performance 📌
Anjana Arunkumar*, Monica Jenefer, Arunkumar Madapusi*
[Southwest Decision Sciences Institute Annual Conference, 2019](#)

31. The Role of Moderators in ERP System Deployment Success 📌
Anjana Arunkumar*, Monica Jenefer, Arunkumar Madapusi*
[Southwest Decision Sciences Institute Annual Conference, 2019](#)
32. Competences Influencing Absorptive Capacity in Enterprise Systems 📌
Anjana Arunkumar*
[Decision Sciences Institute Annual Conference, 2018](#)
33. Enterprise System Configuration and Performance 📌
Anjana Arunkumar*
[Decision Sciences Institute Annual Conference, 2018](#)
34. The Influence of Alignment in Enterprise System Deployments 📌
Anjana Arunkumar*
[Decision Sciences Institute Annual Conference, 2018](#)
35. Absorptive Capacity in Enterprise Systems 📌
Anjana Arunkumar*, Arunkumar Madapusi
[Northeast Decision Sciences Institute Annual Conference, 2018 \(Finalist : Undergraduate Poster Competition\)](#)
36. Configuring SME Enterprise Systems 📌
Anjana Arunkumar*, Arunkumar Madapusi*
[Northeast Decision Sciences Institute Annual Conference, 2018](#)
37. Critical Success Factors in Enterprise Systems 📌
Anjana Arunkumar*, Arunkumar Madapusi*
[Northeast Decision Sciences Institute Annual Conference, 2018](#)
38. The Influence of Competency Factors in Enterprise System Deployments 📌
 Arunkumar Madapusi*, **Anjana Arunkumar**
[Decision Sciences Institute Annual Conference, 2017](#)
39. The Influence of Knowledge Capabilities in Enterprise System Deployments 📌
 Arunkumar Madapusi*, **Anjana Arunkumar**
[Decision Sciences Institute Annual Conference, 2017](#)
40. The Influence of Knowledge Capital in Enterprise System Deployments 📌
 Arunkumar Madapusi*, **Anjana Arunkumar**
[Decision Sciences Institute Annual Conference, 2017](#)

PUBLICATIONS – PEER REVIEWED WORKSHOP PAPERS

1. A Visual Exploration of Fair Evaluation for ML - Bridging the Gap Between Research and the Real World 📌
Anjana Arunkumar*, Swaroop Mishra, Chris Bryan
[Visualization for AI Explainability \(VISxAI workshop\), IEEE Transactions on Visualization and Computer Graphics, 2020](#)
2. DQI: A Guide to Benchmark Evaluation
 Swaroop Mishra*, **Anjana Arunkumar**, Bhavdeep Sachdeva, Chris Bryan, Chitta Baral
[Uncertainty & Robustness in Deep Learning Workshop, ICML, 2020](#)
3. Our Evaluation Metric Needs an Update to Encourage Generalization 📌
 Swaroop Mishra*, **Anjana Arunkumar**, Chris Bryan, Chitta Baral
[Uncertainty & Robustness in Deep Learning Workshop, ICML, 2020](#)
4. VAIDA: An Educative Benchmark Creation Paradigm using Visual Analytics for Interactively Discouraging Artifacts 📌
 Swaroop Mishra*, **Anjana Arunkumar***, Bhavdeep Sachdeva, Chris Bryan, Chitta Baral
[Crowd Science Workshop: Remoteness, Fairness, and Mechanisms as Challenges of Data Supply by Humans for Automation, NeurIPS, 2020](#)
5. Real-Time Visual Feedback for Educative Benchmark Creation: A Human-and Metric-in-the-Loop Workflow Artifacts 📌
Anjana Arunkumar*, Swaroop Mishra, Bhavdeep Singh Sachdeva, Chitta Baral, Chris Bryan
[HAMLETS \(Human And Machine in-the-Loop Evaluation and Learning Strategies Workshop\), NeurIPS, 2020](#)
6. Front Contribution instead of Back Propagation
 Swaroop Mishra*, **Anjana Arunkumar**
[Beyond Backpropagation: Novel Ideas for Training Neural Architectures \(Workshop\), NeurIPS, 2020](#)
7. Is High Quality Data All You Need?
 Swaroop Mishra*, **Anjana Arunkumar**, Bhavdeep Sachdeva
[The pre-registration experiment: an alternative publication model for machine learning research \(Workshop\), NeurIPS, 2020](#)

PUBLICATIONS – PEER REVIEWED CONTEST ENTRIES

1. TotemFinder: A Visual Analytics Approach for Image-based Key Players Identification

PUBLICATIONS – WORKS IN PROGRESS OR UNDER REVIEW

1. Design-Decision Fit: How Does Visualization Mediate Two-Arm Supply Chain Task Performance
Anjana Arunkumar, Arun Madapusi, Lacey Padilla, Spencer Castro (*under review, INFORMS Journal of Applied Analytics*)
2. When Data Beats Demographics: How Visualizations Disrupt Homophily Bias In Crowdfunding
Anjana Arunkumar, Sohvi Heaton, Arun Madapusi, Chris Bryan (*under review, ACM SIGCHI 2026*)
3. “It’s Not a Gamble at a Casino, It’s People’s Lives”: Visualizations and Decision Rationales in Risk Communication
Anjana Arunkumar, Michael Correll, Lacey Padilla (*under review, ACM SIGCHI 2026*)
4. Off The Chart? Rethinking Annotation Strategies For Bilingual Audiences
Anjana Arunkumar, Lacey Padilla (*under review, ACM SIGCHI 2026*)
5. Visualization Proxemics for Touch Screen Analysis of Smart Grids
Anjana Arunkumar, Samantha Molar, Kristi Potter, Chris Bryan (*in-progress*)
6. Show Your Work: Human-Centered Interfaces for Math AI Education
Anjana Arunkumar, Shira Michel, Mahsan Nourani (*in-progress*)

INVITED TALKS

1. Generative AI in Statistics and Analytics Education: Opportunities, Challenges, and Visual Analytics
[Data, Analytics and Statistics Instruction SIG at Decision Sciences Institute Conference](#), November 2025.
2. Bridging Cognition and Communication: Modeling Recall Dynamics and Multilingual Annotations in Visualization
[Georgia Tech](#), October 2025.
3. Modeling Interpretation in Data Visualization: Bridging Computation, Language, and Decision Making
[INFORMS](#), October 2025.
4. Data Visualization Design for the Mind’s Eye: Internalizing What’s In Sight
[Emory University](#), October 2023.
5. What’s In-Sight: How We Truly Internalize Data Visualizations
[University of Victoria](#), September 2023.
6. Designing Touchscreen Interactions to Resolve User Uncertainty in Spatiotemporal Analysis with Maps
[National Renewable Energy Laboratory](#), July 2023.
7. Examining Signifiers and Affordances in Data Visualization
[Arizona State University](#), October 2021.
8. Data Breach Chronicles: Lessons from Cyber Forensics Case Studies
[Meenakshi Sundararajan Engineering College](#), October 2019
9. Text Mining for Pattern Detection in Digital Forensics
[Meenakshi Sundararajan Engineering College](#), October 2018
10. Data Mining in Criminology – Crime Analysis and Hotspot Mapping
[Madras Institute of Technology](#), September 2018
11. Beyond Metrics: Enhancing Quality with Six Sigma and Benchmarking
[Meenakshi Sundararajan Engineering College](#), October 2017
12. Biomimicry in Robotics: Electronic Skin for Insect-Inspired Models
[Loyola-ICAM College of Engineering and Technology](#), September 2017
13. Smart Skin: How Electronic Skin Technology is Transforming Wearable Devices
[Meenakshi Sundararajan Engineering College](#), October 2016

SERVICE

- **Organizer:**
 - Associate Poster Chair of CHI 2026
 - Program Committee Member of AAAI 2025 – 2027
 - Organizing Committee Member of EnergyVis 2024 (@IEEE VIS)
 - Program Committee Member of Pacific Vis 2025
 - Program Committee Member of IEEE Vis 2024
 - Program Committee Member of EnergyVis 2023 (@IEEE VIS)
 - Program Committee Member of EMNLP Industry Track 2023–2024
 - Program Committee Member of ACL 2023–2024

- Program Committee Member of EMNLP 2022–2024
- Program Committee Member of VLDB 2021 Crowd Science Workshop
- Organizer of E3 symposium 2016-18 at Meenakshi Sundararajan Engineering College (Anna University)
- Organizer of Kranti symposium 2016-18 at Meenakshi Sundararajan Engineering College (Anna University)
- **Session Chair:**
 - DSI 2025: Strategic Enablers of Supply Chain Performance
 - INFORMS 2025: Topics in Generative AI
 - Vis Short Papers 2024: Perception and Representation
 - DSI 2024: Diversity, Equity, and Inclusion
 - DSI, SWDSI 2023: Supply Chain Management, Business Analytics
 - DSI, SWDSI 2022: Project Management
 - DSI, SWDSI 2021: Supply Chain Management, Project Management
 - DSI, SWDSI 2020: Business Analytics, Information Technology Management
 - DSI 2019: Business Analytics
- **Reviewer:**
 - Visualization/HCI: IEEE Vis, TVCG, PacificVis, Computer Graphics Forum, ACM SIGCHI, VRST, VAST, Cogent Arts & Humanities, Computers & Graphics
 - NLP/ML: EMNLP, ACL, EACL, ICML, NAACL, NeurIPS, Data Technologies and Applications
 - Management: DSI, SWDSI, NEDSI, MWDSI

TECHNICAL SKILLS

Languages

- Python, R, C, C++, MySQL, Kotlin, Perl

Web Technologies

- D3.js, JavaScript, JSON, NodeJS, HTML, CSS, JQuery, WordPress, Java, XML, Kivy, React, React-Native

Methods

- Human-subjects studies, eye tracking, EEG, gesture tracking, mind wandering, think-aloud protocols, mixed-methods evaluation, rubric design, quality control workflow design, RL environment authoring, data curation pipeline design, GRPO, PPO, DPO, RLHF

AI Frameworks

- Scikit-Learn, Tensorflow, Keras, NLTK, PyTorch, Huggingface

Tools

- Tableau, Gephi, MATLAB, Git, SPSS, LaTeX, Colab, Eclipse, Google Data Studio, Docker, Harbor, Daytona

RELEVANT COURSEWORK

- **ASU:** Data Visualization, Natural Language Processing, Current issues in Visual Cognition, Current Issues in Cognitive Science, Statistical Machine Learning: From Theory to Algorithms, Data Mining, Foundation of Algorithms, Artificial Intelligence, Mobile Computing, and Information Assurance & Security.
- **Anna University:** Engineering Graphics, Database Management Systems, Computer Networks, Operating Systems, Software Engineering, Internet Programming, Object Oriented Analysis & Design, Computer Graphics, Cryptography and Network Security, Grid and Cloud Computing, Adhoc and Sensor Networks, Human Computer Interaction, Neural Networks

LANGUAGES SPOKEN

- English- Native Proficiency

- Tamil- Native Proficiency
- Hindi- Professional working proficiency
- Japanese (N4) - Limited working proficiency
- Sanskrit - Limited working proficiency

EXTRA CURRICULAR ACTIVITIES

- Member of DASI, 2024 onwards
- Member of DASMALAI, 2024 onwards
- Member of the AI Club @ASU, 2019–2024
- Member of the Women in STEM Club @ASU, 2019–2024
- Member of the Graduate and Professional Student Association @ASU 2019-2024
- Mentor, ASA DataFest Competition 2023-2024
- Member of the Computer Society of India, 2019–2024
- Member of the Lions Club
- Member of the Interact Club/Rotary International

REFERENCES

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