

EDUCATION

Texas A&M University Ph.D. in Computer Science <i>Co-Advisors:</i> Dr. Andruid Kerne and Dr. Ruihong Huang <i>Thesis:</i> How to Support Situated Design Education through AI-Based Analytics	College Station, USA 2015–2021
Texas A&M University M.S. in Computer Science <i>Advisor:</i> Dr. Andruid Kerne <i>Thesis:</i> TweetBubble: A Twitter Extension Stimulates Exploratory Browsing	College Station, USA 2011–2014
Delhi Technological University B.E. in Information Technology	Delhi, India 2003–2007

INDUSTRY EXPERIENCE

Amobee Research and Engineering, Data Analytics	Los Angeles, USA Jun 2021–Present
<ul style="list-style-type: none">→ Collaborate with stakeholders across business units to identify and disambiguate requirements, as well as to validate that the developed solutions meet or surpass the requirements.→ Architect, develop, and optimize data pipelines that operate at petabytes scale and deliver ad insights for a range of platforms, including digital, linear, and social media.→ Investigate machine learning models to extract novel insights, as well as to optimize data pipeline performance.	
Centrum Wiskunde & Informatica Research and Engineering, Interactive Systems <i>Mentors:</i> Dr. Pablo Cesar and Dr. Abdallah El Ali	Amsterdam, Netherlands Summer 2018
<ul style="list-style-type: none">→ Identified a research gap in supporting personal health tracker users in understanding their data.→ Developed surveys to gather needs and evaluate visualizations for users' sensemaking of their sleep data.→ Identified effective visualizations for sleep tracking through quantitative and qualitative data analyses.	
Adobe Research Research and Engineering, Marketing Cloud <i>Mentor:</i> Dr. Eunye Koh	San Jose, USA Summer 2017
<ul style="list-style-type: none">→ Identified a research problem in audience segmentation, engaging in discussions with marketing experts.→ Developed interactive visualization of large-scale graph data to present audience overlaps across campaigns.→ Established the system's efficacy through user studies followed by quantitative and qualitative data analyses.	
Google Engineering, Android Search <i>Mentor:</i> Amos Yoffe	Mountain View, USA Summer 2016
<ul style="list-style-type: none">→ Developed module for presenting message results in Android <i>In Apps</i> search, clustered by topic and time.→ Validated the new presentation method by creating a test dataset of messages and comparing search results.→ Launched in September 2016, making the feature available worldwide.	
Google Summer of Code Engineering, Web Semantics <i>Host Organization:</i> Interface Ecology Lab, Texas A&M University	College Station, USA Summer 2012

- Developed a RESTful service for meta-metadata structured web semantics represented in XML / JSON format.
- Developed caching, database integration, logging, testing, and deployment modules.
- Deployed the service in a production environment following a thorough investigation of available web servers.

Samsung

Engineering and Commercialization, Media Platform

Noida, India and Suwon, S. Korea

Jul 2007–Aug 2011

- Played an instrumental role in commercialization of Java platform for mobile, set-top, and blu-ray product lines, coordinating development across teams in India and S. Korea.
- Developed, ported, and optimized 2D Graphics module of Java Virtual Machine.
- Investigated approaches for memory management in Java Virtual Machine.
- Developed notebook apps focused on remote access and network management.

ACADEMIC RESEARCH PROJECTS

- **Design Analytics** [Human-Computer Interaction, Artificial Intelligence] Spring 2017–Spring 2021

A human-centered AI investigation for assisting instructors in assessing a range of visual and conceptual characteristics present within student design work.

- Engaged co-design discussions and workshops to understand instructors' situated practices and needs.
- Developed an AI recognizer to measure students' use of space and scale in their free-form design work.
- Deployed AI-based analytics via dashboards, as a technology probe, in situated course contexts.
- Established efficacy through quantitative precision-recall measures and qualitative analysis of instructor interviews using a grounded theory approach.

- **TweetBubble** [Human-Computer Interaction] Fall 2013–Fall 2016

A Chrome Extension for Twitter users to follow @usernames, #hashtags associations without tabs or windows.

- Developed and deployed Chrome Extension, making it available worldwide.
- Conducted studies during societal events such as the Academy Awards and Super Bowl.
- Developed ideation metrics of exploratory browsing, including Fluency, Flexibility, and Novelty.
- Established efficacy through a mixed methods evaluation, including quantitative ideation metrics and qualitative analysis of user experience data using grounded theory.

- **Event Indicators** [Natural Language Processing] Spring 2016–Fall 2016

A weakly supervised approach for extracting and clustering event indicators from Twitter social media.

- Cleaned up event relevant tweets, filtering duplicates arising from exact matches, substrings, punctuations, etc.
- Applied bootstrapping to acquire a variety of civil unrest event cues, starting from a single strong indicator.

- **BigSemantics** [Software Engineering] Fall 2012–Fall 2016

A software architecture for developing meta-metadata semantics powered dynamic exploratory browsing interfaces.

- Developed new data models, extraction rules, and presentation semantics for social media.
- Developed a RESTful service to facilitate semantics-driven application development across a range of contexts.

- **EvolutionWorks** [Human-Computer Interaction, Information Retrieval] Fall 2011–Spring 2012

A free-form, zoomable space facilitating browsing, collection, and sensemaking of research papers interconnections.

- Developed interface for presenting papers as cards within the free-form zoomable space.
- Developed algorithm for determining representative terms present within a cluster when the user zooms out.
- Established efficacy through user studies, comparing the interface with tabbed browsers.

- **PhotoNav** [Human-Computer Interaction] Fall 2011–Spring 2012

A mixed reality investigation for assisting pedestrian navigation through the means of photographs.

- Developed the NavCurator application for the specification of navigation paths over maps.
- Evaluated handheld and head-mounted displays—through user studies—for assisting pedestrian navigation.

SKILLS

- **Programming Languages:** C, C++, Java, Python, R
- **Web Programming:** HTML, JavaScript, REST, Node.js
- **Big Data Technologies:** HDFS, Spark, Druid, Airflow
- **Machine Learning Libraries:** Scikit-learn, TensorFlow, Keras
- **Visualization Libraries:** D3.js, Three.js, Gephi
- **Research Methods :** Interviews, Surveys, Observations, Workshops, Grounded Theory, Hypothesis Testing

AWARDS & ACHIEVEMENTS

- **Best Paper Nomination** at ACM Document Engineering 2021
- **Best Student Paper Nomination** at ACM Document Engineering 2021
- **Best Teaching Assistant Nomination**, Dept. of Computer Science and Engineering, Texas A&M 2020–2021
- **Student Travel Grant**, College of Engineering, Texas A&M 2021
- **Best Teaching Assistant Nomination**, Dept. of Computer Science and Engineering, Texas A&M 2019–2020
- **Best Teaching Assistant Nomination**, Dept. of Computer Science and Engineering, Texas A&M 2018–2019
- **Outstanding Reviewer** Recognition for ACM CHI PLAY Full Papers 2019
- **Academy for Future Faculty Certificate**, Center for Teaching Excellence, Texas A&M 2018
- **Student Travel Grant**, College of Engineering, Texas A&M 2017
- **Student Travel Grant**, National Science Foundation 2017
- **Best Paper Honorable Mention** at ACM Creativity & Cognition 2015
- **Student Travel Grant**, College of Engineering, Texas A&M 2015
- **Extra Mile Award** at Samsung 2010
- **Best Attitude Award** at Samsung 2008
- **Six Sigma Green Belt** at Samsung 2008

REFEREED CONFERENCE PAPERS

1. **Jain, A.**, Kerne, A., Lupfer, N., Britain, G., Perrine, A., Choe, Y., Keyser, J., and Huang, R. Recognizing Creative Visual Design: Multiscale Design Characteristics in Free-Form Web Curation Documents. In *Proceedings of the ACM Symposium on Document Engineering (DocEng) 2021*, 1-10 [33%]. **Best Paper Nomination, Best Student Paper Nomination.**
2. Kerne, A., Lupfer, N., Linder, R., Qu, Y., Valdez, A., **Jain, A.**, Keith, K., Carrasco, M., Vanegas, J., Billingsley, A. Free-form Web Curation: Strategies for Creative Engagement with Prior Work. In *Proceedings of the ACM Conference on Creativity & Cognition (C&C) 2017*, 380-392 [29%].
3. Sharma, H. N., Touns, Z. O., Dolgov, I., Kerne, A., **Jain, A.** Evaluating Display Modalities using a Mixed Reality Game. In *Proceedings of the ACM Annual Symposium on Computer-Human Interaction in Play (CHI PLAY) 2016*, 65-77 [29%].
4. **Jain, A.**, Lupfer, N., Qu, Y., Linder, R., Kerne, A., Smith, S. M. Evaluating TweetBubble with Ideation Metrics of Exploratory Browsing. In *Proceedings of the ACM Conference on Creativity and Cognition (C&C) 2015*, 178-187 [28%]. **Best Paper Honorable Mention - Top 2%.**

5. Wilkins, J., Järvi, J., **Jain, A.**, Kerne, A., Kejriwal, G., Gumudavelly, V. EvolutionWorks: Towards Improved Visualization of Citation Networks. In *Proceedings of the IFIP Conference on Computer-Human Interaction (INTERACT) 2015*, 213-230 [29.9%].
6. Qu, Y., Kerne, A., Lupfer, N., Linder, R., **Jain, A.** Metadata Type System: Integrate Presentation, Data Models and Extraction to Enable Exploratory Browsing Interfaces. In *Proceedings of the ACM Engineering Interactive Computing Systems (EICS) 2014*, 107-116 [18%].
7. Fei, S., Webb, A. M., Kerne, A., Qu, Y., and **Jain, A.** Peripheral Array of Tangible NFC Tags: Positioning Portals for Embodied Trans-Surface Interaction. In *Proceedings of the ACM Conference on Interactive Tabletops and Surfaces (ITS) 2013*, 33-36 [29%].
8. **Jain, A.** and Singh, S. Modified Programming Language Framework for IVRS Accessibility of Graphical User Interfaces. U-Media, pp.163-167, In *Proceedings of the IEEE Conference on Ubi-Media Computing (U-Media) 2011*, 163-167 [34%].

REFEREED WORKSHOPS AND EXTENDED ABSTRACTS

1. Britain, G., **Jain, A.**, Lupfer, N., Kerne, A., Perrine, A., Seo, J., Sungkajun, A. Design is (A)live: An Environment Integrating Ideation and Assessment, In *Extended Abstracts of the ACM Conference on Human Factors in Computing Systems (CHI Late-Breaking Work) 2020*, 1-8 [41.8%].
2. **Jain, A.** Measuring Creativity: Multi-Scale Visual and Conceptual Design Analysis. In *Proceedings of the ACM Conference on Creativity & Cognition (C&C) 2017*, Graduate Student Symposium, 490-495.
3. **Jain, A.**, Kasiviswanathan, G., and Huang, R. Towards Accurate Event Detection in Social Media: A Weakly Supervised Approach for Learning Implicit Event Indicators. In *Proceedings of the Computational Linguistics (COLING) Workshop on Noisy User-Generated Text (WNUT) 2016*, 70-77.
4. Sharma, H. N., Touns, Z. O., **Jain, A.**, Kerne, A. Designing to Split Attention in a Mixed Reality Game. In *Proceedings of the ACM Annual Symposium on Computer-Human Interaction in Play (CHI PLAY) 2015*, 691-696.
5. Fei, S., Kerne, A., **Jain, A.**, Webb, A. M., and Qu, Y. Positioning portals with peripheral NFC tags to embody trans-surface interaction. In *Proceedings of the ACM Conference on Interactive Tabletops and Surfaces (ITS) 2013*, 317-320.

PRESENTATIONS

- **Recognizing Creative Visual Design: Multiscale Design Characteristics in Free-Form Web Curation Documents** Aug 2021
DocEng'21: Document Engineering
- **LiveMâché: Ideation on the Web** Sep 2020
Georgia Tech ME 6102: Designing Open Engineering Systems
- **Measuring Creativity: Multi-Scale Visual and Conceptual Design Analysis** Jun 2017
C&C'17: Creativity and Cognition (Graduate Student Symposium)
- **Towards Accurate Event Detection in Social Media** Dec 2016
COLING'17: Computational Linguistics
- **Evaluating TweetBubble with Ideation Metrics of Exploratory Browsing** Jun 2015
C&C'15: Creativity and Cognition
- **Programming Language Framework for IVRS Accessibility of Graphical User Interfaces** Jul 2011
UMEDIA'11: Ubi-Media Computing

TEACHING

- **Instructor of Record**, Dept. of Computer Science and Engineering, Texas A&M Spring 2021
CSCE 121 Introduction to Program Design and Concepts (C++)
- **Teaching Assistant**, Dept. of Computer Science and Engineering, Texas A&M Spring 2015–Fall 2020
CSCE 655 Human-Centered Computing
CSCE 482 Senior Capstone Design
CSCE 444 Structures of Interactive Information
CSCE 420 Artificial Intelligence
CSCE 315 Programming Studio
CSCE 206 Structured Programming (C++)
CSCE 121 Introduction to Program Design and Concepts (C++)

MENTORING

- **Gabriel Britain**, Undergraduate Student in Computer Science, Texas A&M Fall 2019–Spring 2020
Research: Design analytics dashboards and their integration with a multiscale design environment.
- **Hannah Fowler**, Undergraduate Student in Computer Science, Texas A&M Spring 2018–Fall 2018
Research: A grounded theory analysis of design instructors' teaching and assessment practices and needs.
- **Aaron Perrine**, Undergraduate Student in Computer Science, Texas A&M Spring 2018–Fall 2018
Research: Design analytics dashboards and their integration with a multiscale design environment.
- **Alex Stacy**, Undergraduate Student in Computer Science, Texas A&M Fall 2016
Research: BigSemantics-based wrappers for extracting and presenting information from social media.

SERVICE

- **Reviewer** 2015–2021
ACM CHI 2022, 2021, 2020, 2019, 2017, 2016
ACM DIS 2021, 2020, 2019, 2018, 2016
ACM CSCW 2022, 2020, 2018
ACM C&C 2021, 2019, 2015
ACM CHI PLAY 2019, 2018, 2017
ACM ICMI 2021
CogSci 2021, 2019
EAI MobiHealth 2020
Psychonomic Bulletin 2019
- **Associate Chair** 2021
ACM Creativity & Cognition
- **Judge, Student Research Week** 2021
Texas A&M University
- **Registration Chair** 2019
ACM Creativity & Cognition
- **Student Volunteer** 2012
Design Computing and Cognition

REFERENCES

Dr. Andruid Kerne

Professor

Department of Computer Science and Engineering

Texas A&M University

✉ andruid@ecologylab.net

Dr. Steven M. Smith

Professor

Department of Psychology

Texas A&M University

✉ stevesmith@tamu.edu

Dr. Ruihong Huang

Assistant Professor

Department of Computer Science and Engineering

Texas A&M University

✉ huangrh@cse.tamu.edu

Dr. Jinsil Seo

Associate Professor

Department of Visualization

Texas A&M University

✉ hwaryoung@tamu.edu