Shruti Misra

Mixed-methods researcher and data scientist with 4+ years of experience

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**EDUCATION**

**PhD, Electrical and Computer Engineering (GPA: 3.81/4.00),** *University of Washington* (Sept 2018- Oct 2023)

* Relevant coursework: Data Visualization, Statistical Learning and Qualitative Methods
* Nine peer-reviewed publications in ASEE and CDC

**MS, Electrical and Computer Engineering,** *University of Washington* (Sept 2016- Jun 2018)

**BS, Electrical and Computer Engineering,** *University of Washington* (Sept 2012 – Jun 2016)

**SKILLS**

**Programming:** Python (pandas, matplotlib, scikit-learn, scipy, seaborn, keras), R, git, HTML/CSS, MATLAB, C

**Research Methods:** Exploratory factor analysis, regression, classification, network analysis, surveys, document analysis, interviews

**WORK EXPERIENCE**

Venture Analyst**,** *Pack Ventures* (Jan 2022-Present)

* Aided informed investment decision-making by conducting thorough market and industry research on opportunities under consideration.
* Assisted senior partners with deal analysis, and due diligence for early-stage companies in various industries, resulting in successful investments and portfolio growth.
* Prepared investment memos highlighting investment thesis, key risks, and opportunities.

Graduate Research Assistant, *University of Washington*  (Sept 2018 – Present)

Designed quantitative and qualitative studies to key identify factors that characterize innovation ecosystems.

* Identified potential metrics of regional innovation through analysis of data from 5+ public and private databases.
* Collaborated in a team to design a dashboard in Tableau for diverse stakeholder groups.
* Obtained user feedback through surveys and interviews to identify relevant metrics and key design directions.

Designed quantitative and qualitative studies to understand students' design experiences in industry capstone projects.

* Designed and conducted surveys of 150+ students over 2 years to study students’ perceptions of learning.
* Identified key factors related to student learning through exploratory factor analysis and regression models in R.
* Highlighted the role of mentor support and student resilience in the capstone through qualitative analyses.
* Published findings in a leading engineering education conference.

Developed a machine learning approach to model defense against Advanced Persistent Threats (APTs) in cybersecurity.

* Developed a new model to simulate APTs by implementing input convex neural networks (ICNN) in Python.
* Used training data from real cyber-attacks to achieve optimal strategies for the attacker and defender.
* Published and presented the work at a leading conference, in collaboration with other co-authors.

Senior Design Capstone Manager,*University of Washington*(Sept 2018 – Present)

* Led the development and growth of 5 cohorts of the capstone program, during which the program grew from 85+ (20+ projects) to 250+ students (50+ projects).
* Managed a team of 4 teaching assistants, ensuring consistent program outcomes for students.
* Designed and implemented a program evaluation framework, resulting in improvement in student engagement.
* Mentored 150+ (50+ teams) in design project scoping, technical assistance, and project management, resulting in successful project completion.

Commercialization Fellow,*Buerk Center for Entrepreneurship, University of Washington* (Jun 2022-Aug 2022)

* Conducted 20+ stakeholder interviews to inform the design, pricing, regulatory, and reimbursement strategy for a childhood asthma management app.
* Conducted market research and competitor analysis of 20 competitors to identify key design requirements for a minimum viable product (MVP) and target beachhead customers to inform data-driven product development.
* Delivered and presented a feasible 6-year commercialization plan to the client and program coordinators.

Firmware Engineering Intern**,** *Microsoft*(Jun 2019-Sept 2019)

* Designed and tested firmware to support sparse computations in Brainwave’s BERT framework.
* Demonstrated significant decrease in latency that scaled with sequence length and sparsity.
* Identified ways to improve resource utilization by packing dense tiles together, highlighting the potential for even greater improvements with larger and sparser datasets.

**AWARDS & HONORS**

* Venture Fellowship, Pack Ventures, 2023
* [Husky 100](https://www.washington.edu/husky100/year/2022/#name=shruti-misra), 2022: Awarded annually to 100 students across all University of Washington (UW) campuses.
* Finalist, Hollomon Health Innovation Challenge, UW, 2022
* Finalist, Excellence in Teaching Award, University of Washington, 2022: Awarded across all departments at UW.
* ITHS/WRF Summer Commercialization Fellowship, Buerk Center for Entrepreneurship, UW, 2022
* Best Diversity Paper in the New Engineering Educators Division, ASEE, 2021
* Outstanding Teaching Assistant Award, Department of Electrical and Computer Engineering, UW, 2018
* Emerging Leaders in Engineering Scholarship, College of Engineering, UW, 2015