




# Meric Altug Gemalmaz

 [gemalmaz.org](https://gemalmaz.org)  [linkedin.com/in/meric-altug-gemalmaz](https://linkedin.com/in/meric-altug-gemalmaz)  [mgemalma@purdue.edu](mailto:mgemalma@purdue.edu)

**OBJECTIVE:** Seeking Software Engineering roles starting May 2025.

## EDUCATION

### Purdue University, West Lafayette, Indiana

- Ph.D. in Computer Science **3.96/4.0** Jan 2020 – Present
- M.S. in Computer Science (Transferred to Ph.D.) **3.93/4.0** Jan 2019 – Dec 2019
- B.S. in Computer Science (Software Engineering Track, **Distinction**) **3.92/4.0**. Aug 2015 – Dec 2018

## SKILLS

**Programming Languages:** Python, C/C++, C#, JavaScript, Java, HTML/CSS, R, Bash

**Machine Learning Tools:** scikit-learn, NumPy, Pandas

**Tools & Platforms:** Git, Meteor.js, MongoDB, MTurk, Android SDK, Firebase

## EXPERIENCE

### Human-subject Experiments, Purdue

Jan. 2020 – Present

- Coordinated **1,500+** human participants across **4+** research projects on **MTurk** for data collection and analysis.
- Developed and deployed web applications using **JavaScript** and the **Meteor.js** framework, managed back-end databases with **MongoDB**, and implemented front-end interfaces using **HTML** and **CSS**.
- Delivered **90%** participant satisfaction and **80%** bot attack robustness by designing scenario-based, interactive UIs with robust security measures.

### Exploring Fairness in Algorithmic Management, Purdue

Dec. 2023 – Present

- Collaborating with gig workers to explore their long-term behavior toward AI-driven gig assignments with varying levels of fairness, aiming to encourage AI developers to make more responsible and inclusive design choices.

### Fairness and Loan Applicant Engagement in AI Decisions, Purdue [P1<sup>†</sup>, W1<sup>§</sup>]

Mar. 2021 – Dec. 2023

- Conducted human-subject experiments to examine how loan applicants' repeated interactions with an AI-based loan approval system affect their fairness perceptions and willingness to continue engaging with the AI.
- Simulated loan applicants' AI interactions with a **Markov Decision Process** to estimate proper human-subject experiment parameters, then collected data to analyze real human-AI interactions with **regression analysis** to understand human behavior.
- Discovered a critical fairness issue: similar AI usage across demographics often hides unfairness, as people continue using biased models out of necessity, not fairness. This persistence challenges developers to rethink usage as a measure of model fairness.

### Data Bias Mitigation Algorithm, Purdue [P2<sup>†</sup>]

Mar. 2020 – Mar. 2021

- Leveraged unsupervised learning techniques to detect and mitigate cognitive bias in crowdsourced data annotations.
- Utilized **probabilistic graphical models** to model annotator bias and used the **Expectation-Maximization algorithm** to infer ground-truth annotations.
- Achieved over **10% increase** in inferred label accuracy over existing baselines through reduction in annotation bias.

## TEACHING EXPERIENCE

### Graduate Teaching Assistant: Data Mining, Systems Programming, Computer Architecture

Jan. 2019 – Present

- Led lab sections each semester for **50+** students and supervised **10+** undergraduate TAs.
- Served as a **guest lecturer** on implementing a concurrent web server and AI Ethics and Fairness, collaborated with GTAs to develop teaching materials, and managed administrative responsibilities.
- Enhanced student learning outcomes, earning top teaching evaluations and multiple teaching awards for leadership, communication, and adaptability.

### Undergraduate Teaching Assistant: Operating Systems, Systems Programming

Jan. 2018 – Dec. 2018

## HONORS AND AWARDS

Recipient of the Graduate Teaching Award, Purdue

2022

Recipient of the Raymond Boyce Graduate Teaching Award, Purdue

2020

Dean's List and Semester Honors (**8 Semesters**), Purdue

Aug. 2015 – Dec. 2018

## SELECTED PAPERS

[P1<sup>†</sup>] Meric Altug Gemalmaz, Ming Yin. "Understanding Decision Subjects' Fairness Perceptions and Retention in Repeated Interactions with AI-Based Decision Systems." *Proceedings of the 5th AAAI/ACM Conference on AI, Ethics, and Society (AIES)*, Oxford, UK, August 2022.

[P2<sup>†</sup>] Meric Altug Gemalmaz, Ming Yin. "Accounting for Confirmation Bias in Crowdsourced Label Aggregation." *Proceedings of the 30th International Joint Conference on Artificial Intelligence (IJCAI)*, Online, August 2021.

[W1<sup>§</sup>] Meric Altug Gemalmaz, Ming Yin. "Understanding Decision Subjects' Engagement with and Perceived Fairness of AI Models When Opportunities of Qualification Improvement Exist." *arXiv:2410.03126 (Under Review)*