

Suad Mohamed

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EDUCATION

Ph.D. in Computer Science	Aug 2026-Present
Vanderbilt University	Nashville, TN
Bachelor of Science in Computer Science Bachelor of Science in Psychology	Aug 2021-May 2025
Belmont University	Nashville, TN

HONORS AND AWARDS

- National Science Foundation Graduate Research Fellowship Award (2026)
- Belmont University College of Science & Mathematics Dean's Research Award (2025)

RESEARCH EXPERIENCE

Beyond the Prompt: How Novices Engage with AI During Code Summarization	May 2024-2025
Dr. Esteban Rodriguez & Dr. Michael Oliver Belmont University	
- Led design of within-subject eye tracking study examining how 22 student-programmers summarize code with and without LLM assistance, delegating recruitment protocol and analysis tasks across 4 undergraduates as PI of the study. - Constructed experimental dataset filtering 150K Python methods and configured experimental materials including AOIs and split-screen task interface on Google's Gemini. - Designed analysis pipeline independently with faculty supervision, including repeated measures ANOVAs, hybrid summary evaluation, and Gemini prompt qualitative evaluation.	
Discerning Code Comprehension Quality From Programmer Visual Attention.	Feb 2024- Present
Dr. Yu Huang: Mind Lab Vanderbilt University	
- Analyzed 21+ hours of eye-tracking data from 27 CS students writing Java code summaries, incorporating fixation count, duration, scan path and attention switching analysis. - Developed Transformer-based classification model integrating custom semantic category/duration embeddings and CodeBert tokenization to predict comprehension quality from scan path, demonstrating 8.1% improvement compared to baseline model without visual attention features. - Conducted in-depth analysis including non-parametric pair-wise testing, multivariate analysis, and LMER to investigate visual attention indicators of code summary quality.	
Chatting with AI: Deciphering Developer Conversations with ChatGPT	Nov 2023-Apr 2024
Dr. Esteban Rodriguez & Dr. Michael Oliver Belmont University	
- Conducted qualitative analysis pipeline for 1,900+ developer conversations with ChatGPT using open-coding process with inter-rater reliability, resulting in 19 conversation categories. - Designed four classical ML models (Support Vector Machine, Naïve Bayes, Random Forest, and Decision Tree) to explore automatic classification of developer-AI conversations.	
Cognitive Processes in Programming: EEG Study on Memory & Attention	Jan 2024-May 2024
Dr. Michael Oliver Belmont University	
- Designed and ran a multi-task EEG experiment combining working memory, attention, and linguistic processing task to explore cognitive processes in programming students. - Collected and processed EEG and behavioral data across 25 undergraduate students, performed pairwise statistical tests by experience, and presented poster at Belmont University's Research Symposium.	

RELEVANT WORK EXPERIENCE

Software Engineer I	
Microsoft Atlanta, GA	Aug 2025 - Aug 2026
Design internal networking utilities for cloud service management and on call engineer improvements.	
Software Engineer Intern	
Microsoft Redmond, WA	May 2024 - Aug 2024
Implemented microservice to address monitoring gap with Azure Container's CI testing.	

Software Development Intern

IDEMIA / Brentwood, TN

May 2023 – Dec 2023

- Automated digital license verification and created integration tests to ensure feature reliability.

PUBLICATIONS

Conference Papers

- Mohamed, S.**, Parvin, A., & Parra, E. (2024, April). Chatting with ai: Deciphering developer conversations with Chatgpt. In *Proceedings of the 21st International Conference on Mining Software Repositories* (pp. 187-191).
- Mohamed, S.**, Ismail, N., Amaya Hernandez, K., Parvin, A., Oliver, M., & Parra, E. (2025, May). Design of An Eye-Tracking Study Towards Assessing the Impact of Generative AI Use on Code Summarization. In *Proceedings of the 2025 Symposium on Eye Tracking Research and Applications* (pp. 1-8).
- Mohamed, S.**, Parvin, A., Ismail, N., Amaya, K., Oliver, M., & Parra, E.. (2026, April) Beyond the prompt: How novices engage with AI during code summarization. In *Proceedings of the IEEE/ACM 48th International Conference on Software Engineering*.

LEADERSHIP EXPERIENCE

Chair of Research and Professional Development Student Advisory Board

Mar 2023-May 2025

Belmont University Department of CS and Mathematics | Nashville, TN

- Led initiatives to expand research opportunities by conducting faculty and student interviews and presenting actionable suggestions at departmental meetings.

Founder, Director of Programming

Jan 2023-May 2025

Bruins in Tech, Belmont University | Nashville, TN

- Organized workshop and panel discussions to facilitate mentorship opportunities to CS undergrads.

SKILLS

Programming: Java, Python, R, C#, CSS, JavaScript, Razor,

Libraries: PyTorch, HuggingFace Transformers, TensorFlow, React

Platforms: Docker, Kubernetes

Lab: Human Research, Rodent Animal Research