

Hyunjae Suh

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SUMMARY

Ph.D. student in Software Engineering specializing in **Generative AI and Machine Learning for software development**. Experienced in evaluating and improving LLM-generated code through advanced prompting strategies, empirical studies, and ML-based risk prediction for large-scale software systems.

EDUCATION

University of California, Irvine

Ph.D. in Software Engineering

Sep. 2023 – Present

Irvine, CA

Kookmin University

B.S. in Computer Science

Mar. 2017 – Aug. 2023

Seoul, South Korea

INDUSTRY EXPERIENCE

Applied Scientist Intern

Amazon

Jun. 2025 – Sep. 2025

Austin, TX

- Developed ML-based change risk models on large-scale Prime Video codebases to improve deployment reliability by proactively flagging risky commits.
- Engineered diff-aware representations using LLMs and evaluated ensemble classifiers (Random Forest, XGBoost), reaching 84.60 F1-score and demonstrating the effectiveness of feature design in risk prediction tasks.
- Conducted large-scale experiments analyzing predictive features of risky changes, integrating risk scores into deployment pipelines to reduce failed releases.

Graduate Research Assistant

eBay

Aug. 2023 – Dec. 2023

Remote

- Fine-tuned open-source LLMs for commit message generation, reducing documentation effort and improving contextual relevance.
- Applied prompt engineering to standardize commit messages across repositories, improving clarity and consistency in documentation practices.
- Benchmarked multiple LLMs, analyzing trade-offs in accuracy, conciseness, and efficiency for engineering workflows.

RESEARCH EXPERIENCE

Ph.D. Researcher – AI & Software Engineering

University of California, Irvine

Sep. 2023 – Present

Irvine, CA

- Conduct empirical studies on LLMs for software engineering tasks, with focus on accessibility, quality, and attribution.
- Built a detection pipeline combining fine-tuned LLMs, code embeddings, and feature-based classifiers, achieving state-of-the-art results (82.55 F1-score) on benchmark datasets — published at **ICSE 2025**.
- Designed and tested prompting strategies (Few-Shot, Self-Criticism, Multi-Agent Debate, ReAct) to reduce accessibility violations of AI-generated applications.
- Developed *FeedA11y*, a ReAct-based pipeline integrating accessibility evaluation feedback (IBM Equal Access, AChecker) into refinement loops for accessible code generation.
- Conducted large-scale experiments on fine-tuning order in LLMs for software engineering tasks, analyzing cross-task interference and transfer dynamics.

PUBLICATIONS

An Empirical Study on Automatically Detecting AI-Generated Source Code: How Far Are We?

Hyunjae Suh, Mahan Tafreshipour, Jiawei Li, Adithya Bhattiprolu, Iftekhar Ahmed.

ICSE 2025 (47th IEEE/ACM International Conference on Software Engineering). [\[DOI\]](#)

Human or LLM? A Comparative Study on Accessible Code Generation Capability

Hyunjae Suh, Mahan Tafreshipour, Sam Malek, Iftekhar Ahmed.

arXiv preprint, 2025.

Does the Order of Fine-tuning Matter and Why?

Qihong Chen, Jiawei Li, **Hyunjae Suh**, Lianghao Jiang, Zheng Zhou, Jingze Chen, Jiri Gesi, Iftekhar Ahmed.
arXiv preprint, 2024.

SERVICE

Reviewer

May 2025 – Present

ACM Transactions on Software Engineering and Methodology (TOSEM)

Reviewer

Jun 2025 – Present

IEEE Transactions on Reliability (TR)

TEACHING EXPERIENCE

Teaching Assistant

Sep. 2023 – Present

University of California, Irvine

Irvine, CA

- IN4MATX 115 - Software Testing, Analysis, and Quality Assurance
- ICS 10 - How Computers Work
- ICS 32 - Programming with Software Libraries
- CS 121 - Information Retrieval

TECHNICAL SKILLS

Languages: Python, Java, R, JavaScript, C++, SQL

ML/Frameworks: PyTorch, Hugging Face, scikit-learn, Keras, Pandas, NumPy, Matplotlib, XGBoost, LangChain

Tools: AWS SageMaker, AWS Bedrock, AWS S3, Git, LaTeX

Code Analysis: Checkstyle, Detekt, ESLint, Soot, Understand

Research Methods: Empirical Studies, Quantitative Analysis, Data Visualization