MYEONGSOO KIM

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EDUCATION

Georgia Institute of Technology, Georgia, United States   *December 2024 (Expected)*
Ph.D. student in Computer Science

Kookmin University, Seoul, South Korea   *August 2019*
B.S. in Computer Science

RESEARCH EXPERIENCE

Aristotle Lab, Georgia Institute of Technology   *August 2019 – present*
Graduate Researcher, Advisor: Prof. Alessandro Orso

- Develop innovative REST API testing methodologies by harnessing Reinforcement Learning and cutting-edge Language Models.
- Enhance REST API testing by improving REST API documentation using NLP Techniques.
- Design a novel technique for source code reduction centered on data dependency analysis.
- Mentor three undergraduate students and one graduate student on their research projects.

Embedded Lab, Kookmin University   *September 2018 – August 2019*
Undergraduate Researcher, Advisor: Prof. Eun-Jin Im

- Investigated security issues in peer-to-peer energy transactions.
- Developed a transaction platform using Ethereum smart contracts, integrating a solar panel, Samsung ARTIK IoT, and a rechargeable battery.

Software Design and Collaboration Lab, University of California, Irvine   *June 2018 – August 2018*
Undergraduate Researcher, Advisor: Prof. André van der Hoek

- Implemented a code conflict checking algorithm to monitor developer activities, alert on potential code conflicts, and make suggestions to solve the alerts.
- Designed an intent classifier using NLP techniques for user intent recognition.

Embedded Lab, Kookmin University   *January 2018 – May 2018*
Undergraduate Researcher, Advisor: Prof. Eun-Jin Im

- Developed a smart contract vulnerability checker with an integrated ether-wallet interface.
- Assessed and compared the security features of nine state-of-the-art tools to our platform.

System Test Lab, University of California, Irvine   *June 2017 – December 2017*
Undergraduate Researcher, Advisor: Prof. Ian G. Harris

- Implemented a text type classifier using CoreNLP, Question Answering System, and TF-IDF.
- Distributed the scam detection program with a dataset of 180,000 scam emails.

WORK EXPERIENCE

Google, California, United States   *May 2022 – August 2022*
PhD Software Engineering Internship at Google Chat team

- Analyzed potential security issues in Chat applications.
- Developed a grammar-based testing tool for internal and external chat applications.

IBM Thomas J. Watson Research Center, New York, United States   *June 2020 – November 2020*
PhD Research Internship at AI Cloud team

- Investigated challenges in decomposing legacy web applications using Kubernetes.
- Developed a Command Line Interface tool for validating transformation of the monolithic application to microservice application.

Bizbook, Seoul, South Korea   *December 2016 – March 2017*
Internship at Web development team

- Developed and maintained web pages using HTML, CSS, JS, JQuery, and PHP.
- Created automated Excel documents for sales purposes.

PUBLICATIONS

Myeongsoo Kim, Saurabh Sinha, Alessandro Orso. *Adaptive REST API Testing with Reinforcement Learning.* In Proceedings of the 38th IEEE/ACM International Conference on Automated Software Engineering (ASE). 2023.

Myeongsoo Kim, Davide Corradini, Michele Pasqua, Mariano Ceccato, Alessandro Orso, Saurabh Sinha, Rachel Tzoref-Brill, Mariano Ceccato. *Enhancing REST API Testing with NLP Techniques.* In Proceedings of the 32nd ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA). 2023. p. 1232-1243.

Myeongsoo Kim, Qi Xin, Saurabh Sinha, Alessandro Orso. *Automated Test Generation for REST APIs: No Time to Rest Yet.* In Proceedings of the 31st ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA). 2022. p. 289-301.

Qi Xin, **Myeongsoo Kim**, Qirun Zhang, Alessandro Orso. *Subdomain-Based Generality-Aware Debloating.* In Proceedings of the 35th IEEE/ACM International Conference on Automated Software Engineering (ASE). 2020. p. 224-236.

Qi Xin, **Myeongsoo Kim**, Qirun Zhang, Alessandro Orso. *Program Debloating via Stochastic Optimization.* In Proceedings of the ACM/IEEE 42nd International Conference on Software Engineering: New Ideas and Emerging Results (ICSE-NIER). 2020. p. 65-68.

Myeongsoo Kim, Changheon Song, Hyeji Kim, Deahyun Park, Yeeji Kwon, Eun Namkung, Ian G. Harris, Marcel Carlsson. *Scam Detection Assistant: Automated Protection from Scammers.* In 2019 First International Conference on Societal Automation (SA). IEEE, 2019. p. 1-8.

Elahe Paikari, JaeEun Choi, SeonKyu Kim, Sooyoung Baek, **Myeongsoo Kim**, SeungEon Lee, ChaeYeon Han, YoungJae Kim, KaHye Ahn, Chan Cheong, André van der hoek. *A chatbot for conflict detection and resolution.* In 2019 IEEE/ACM 1st International Workshop on Bots in Software Engineering (BotSE). IEEE, 2019. pp. 29-33.

Myeongsoo Kim, Eun-Jin Im. *Ethereum Smart Contract Vulnerability Detector.* Journal of the Korea Information Science Association, 2018, pp. 1940-1942.

TEACHING EXPERIENCE

Georgia Institute of Technology, GA, United States *August 2021 – December 2021*
Teaching Assistant, Advanced Software Engineering (CS 6301)

Kookmin University, Seoul, South Korea *March 2017 – June 2017*
Teaching Assistant, Computer Programming1 (113090)

AWARDS

Third Prize, Hand in Hand Challenge *January 2021*
CS 7001 Award, GT Computing Student Awards *April 2020*
Undergraduate Research Fellowship, Kookmin University *2017-2019*
First Prize, LINE Blockchain Competition *December 2018*
Second Prize, KMU Capstone Design Competition *November 2018*
Best Undergraduate Paper Award, Korea Computer Congress *July 2018*
Software Creativity Award (First Prize), President of Korea Science Foundation *March 2017*

TECHNICAL SKILLS

Language: Python, Java, C
OS: Windows, Mac, Ubuntu, Debian, CentOS
Domain Experience: Software Testing, REST API, Natural Language Processing, Neural Networks, Reinforcement Learning, Blockchain

SERVICE AND LEADERSHIP

Team Member, Georgia Tech's E-sports team *2021*
President, Georgia Tech Korean Student Association *2020*
Web Developer, Georgia Tech Korean Student Association *2019*
Volunteer for Making Braille Books for the Blind, Song-Pa Community Center *January 2017 - February 2017*
Sergeant, Republic of Korea Army *August 2014 – May 2016*