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RESEARCH INTERESTS

My research focuses on Automated Data-centric AI Engineering and Automated Software Engineering, with a strong emphasis on automating data preparation, labeling, cleaning, and synthesis to enhance AI reliability. I also develop AI-driven techniques for software automation, including code generation and security analysis, to improve the efficiency and robustness of AI-powered systems.

EDUCATION

Ph.D. in Computer Science, University of Texas at Dallas, USA   Sep 2017-Aug 2022

B.S. in Computer Science, VNU University of Engineering & Technology, Hanoi, Vietnam Sep 2011-Jun 2015

WORK EXPERIENCE

Assistant Professor/Lecturer   Sep 2022 - Present
Faculty of Information and Technology, VNU University of Engineering and Technology   *Hanoi, Vietnam*

Teaching Assistant   Jan 2021 - Aug 2022
Computer Science Department, University of Texas at Dallas   *Richardson, Texas, USA*

Research Assistant   Sep 2017 - Dec 2020
Computer Science Department, University of Texas at Dallas   *Richardson, Texas, USA*

R&D team leader, System architect   Sep 2015 - Aug 2017
Faculty of Information and Technology, VNU University of Engineering and Technology   *Hanoi, Vietnam*

Teaching Assistant   Sep 2015 - Aug 2017
Faculty of Information and Technology, VNU University of Engineering and Technology   *Hanoi, Vietnam*

HONORS AND AWARDS

Vietnam Golden Globe Award in Science and Technology for Young Researchers   Nov 2024
Awarded by the Central Executive Committee of the HCYU and the Ministry of Science and Technology of Vietnam.

Bronze Medal at the Student Research Competition   Nov 2018
Awarded at the ACM Joint European Software Engineering Conference and Symposium on the Foundations of Software Engineering (ESEC/FSE), sponsored by Microsoft.

Vietnamese Talent Awards   Oct 2017
Awarded by Vietnam Posts and Telecommunications Group and the Ministry of Science and Technology, Vietnam to seek and honor talents in the fields of IT, sciences and technologies, and environment.

Second Prize at Student Scientific Research Contest   Apr 2015
Awarded by VNU University of Engineering and Technology.

PUBLICATION

1. Lam, Phong, Ha-Linh Nguyen, Xuan-Truc Dao Dang, Van-Son Tran, Minh-Duc Le, Thu-Trang Nguyen, **Son Nguyen**, and Hieu Dinh Vo. "*Leveraging local and global relationships for corrupted label detection.*" Future Generation Computer Systems (2025): 107729.

2. Vu, Thanh Trong, Tuan-Dung Bui, Thanh-Dat Do, Thu-Trang Nguyen, Hieu Dinh Vo, and **Son Nguyen**. "*Automated description generation for software patches.*" Information and Software Technology 177 (2025): 107543.

3. **Nguyen, Son**, Thu-Trang Nguyen, Thanh Trong Vu, Thanh-Dat Do, Kien-Tuan Ngo, and Hieu Dinh Vo. "*Code-centric learning-based just-in-time vulnerability detection.*" Journal of Systems and Software 214 (2024): 112014.

4. Vo, Hieu Dinh, and **Son Nguyen**. "*Can an old fashioned feature extraction and a light-weight model improve vulnerability type identification performance?.*" Information and Software Technology 164 (2023): 107304.

5. **Nguyen, Son**, Thanh Trong Vu, and Hieu Dinh Vo. "*VFFINDER: A Graph-based Approach for Automated Silent Vulnerability-Fix Identification.*" In 2023 15th International Conference on Knowledge and Systems Engineering (KSE), pp. 1-6. IEEE, 2023.

6. **Nguyen, Son**, Cuong Tran Manh, Kien T. Tran, Tan M. Nguyen, Thu-Trang Nguyen, Kien-Tuan Ngo, and Hieu Dinh Vo. "*Arist: An effective api argument recommendation approach.*" Journal of Systems and Software 204 (2023): 111786.

7. Thu-Trang Nguyen, Kien-Tuan Ngo, **Son Nguyen**, and Hieu Dinh Vo. "*Detecting false-passing products and mitigating their impact on variability fault localization in software product lines.*" Information and Software Technology 153 (2023): 107080.

8. Hieu Tran, **Son Nguyen**, I-Ling Yen, and Farokh Bastani. "*TLETA: Deep Transfer Learning and Integrated Cellular Knowledge for Estimated Time of Arrival Prediction.*" In 2022 IEEE 25th International Conference on Intelligent Transportation Systems (ITSC), pp. 1921-1926. IEEE, 2022.

9. Cuong Tran Manh, Kien Tran Trung, Tan M. Nguyen, Thu-Trang Nguyen, **Son Nguyen**, and Hieu Dinh Vo. "*API parameter recommendation based on language model and program analysis.*" In 2021 28th Asia-Pacific Software Engineering Conference (APSEC), pp. 492-496. IEEE, 2021.

10. Thu-Trang Nguyen, Kien-Tuan Ngo, **Son Nguyen**, and Hieu Dinh Vo. "*A Variability Fault Localization Approach for Software Product Lines.*" IEEE Transactions on Software Engineering 48, no. 10 (2021): 4100-4118.

11. Kien-Tuan Ngo, Thu-Trang Nguyen, **Son Nguyen**, and Hieu Dinh Vo. "*Variability fault localization: a benchmark.*" In Proceedings of the 25th ACM International Systems and Software Product Line Conference-Volume A, pp. 120-125. 2021.

12. Hieu Tran, **Son Nguyen**, I-Ling Yen, and Farokh Bastani. "*Into Summarization Techniques for IoT Data Discovery Routing.*" In 2021 IEEE 14th International Conference on Cloud Computing (CLOUD), pp. 96-105. IEEE, 2021.

13. **Son Nguyen**, Hung Phan, Trinh Le, and Tien N. Nguyen. "*Suggesting natural method names to check name consistencies.*" In Proceedings of the ACM/IEEE 42nd international conference on software engineering, pp. 1372-1384. 2020.

14. **Son Nguyen**, Hoan Nguyen, Ngoc Tran, Hieu Tran, and Tien Nguyen. "*Feature-interaction Aware configuration prioritization for configurable code.*" In 2019 34th IEEE/ACM International Conference on Automated Software Engineering (ASE), pp. 489-501. IEEE, 2019.

15. **Son Nguyen**, Tien Nguyen, Yi Li, and Shaohua Wang. "*Combining program analysis and statistical language model for code statement completion.*" In 2019 34th IEEE/ACM International Conference on Automated Software Engineering (ASE), pp. 710-721. IEEE, 2019.

16. Yi Li, Shaohua Wang, Tien N. Nguyen, and **Son Nguyen**. "*Improving bug detection via context-based code representation learning and attention-based neural networks.*" Proceedings of the ACM on Programming Languages 3, no. OOPSLA (2019): 1-30.

17. Ngoc Tran, Hieu Tran, **Son Nguyen**, Hoan Nguyen, and Tien Nguyen. "*Does BLEU score work for code migration?.*" In 2019 IEEE/ACM 27th International Conference on Program Comprehension (ICPC), pp. 165-176. IEEE, 2019.

18. Hieu Tran, Ngoc Tran, **Son Nguyen**, Hoan Nguyen, and Tien N. Nguyen. "*Recovering variable names for minified code with usage contexts.*" In 2019 IEEE/ACM 41st International Conference on Software Engineering (ICSE), pp. 1165-1175. IEEE, 2019.

19. Hoan Anh Nguyen, Tien N. Nguyen, Danny Dig, **Son Nguyen**, Hieu Tran, and Michael Hilton. "*Graph-based mining of in-the-wild, fine-grained, semantic code change patterns.*" In 2019 IEEE/ACM 41st International Conference on Software Engineering (ICSE), pp. 819-830. IEEE, 2019.

20. **Son Nguyen**. "*Configuration-dependent fault localization.*" In 2019 IEEE/ACM 41st International Conference on Software Engineering: Companion Proceedings (ICSE-Companion), pp. 156-158. IEEE, 2019.

21. **Son Nguyen**. *"Feature-interaction aware configuration prioritization."* In Proceedings of the 2018 26th ACM Joint Meeting on European Software Engineering Conference and Symposium on the Foundations of Software Engineering, pp. 974-976. 2018.

22. Le Ba Cuong, **Son Nguyen**, Duc Anh Nguyen, Pham Ngoc Hung, and Dinh Hieu Vo. *"JCIA: A tool for change impact analysis of java EE applications."* In Information Systems Design and Intelligent Applications, pp. 105-114. Springer, Singapore, 2018.

23. **Son Nguyen**, Hieu Dinh Vo, and Pham Ngoc Hung. *"A correlation-aware negotiation approach for service composition."* In Proceedings of the sixth international symposium on information and communication technology, pp. 210-216. 2015.

PROFESSIONAL SERVICES AND ACTIVITIES

- Reviewer for the Journals of Systems and Software, Engineering Applications of Artificial Intelligence, Expert Systems with Applications, Information and Software Technology, Information Processing and Management, Automated Software Engineering, and Software Quality Journal

- Reviewer for the International Conference on Evaluation and Assessment in Software Engineering (EASE 2025)

- Reviewer for the 29th ACM International Systems and Software Product Line Conference (SPLC 2025)

- Publication Co-chair for the 16th IEEE International Conference on Knowledge and Systems Engineering (KSE 2024)

- Reviewer for 16th International Conference on Knowledge and Systems Engineering (KSE 2024)

- Reviewer for the 28th ACM International Systems and Software Product Line Conference (SPLC 2024)

- Reviewer for AAAI Conference on Artificial Intelligence (AAAI 2023)

- Reviewer for 15th International Conference on Knowledge and Systems Engineering (KSE 2023)

- External reviewer for International Conference on Web Services (ICWS 2022)

- Reviewer for the 14th International Conference on Knowledge and Systems Engineering (KSE 2022)

- External reviewer for International Conference on Automated Software Engineering (ASE 2018)

- External reviewer for International Symposium on the Foundations of Software Engineering (FSE 2018)