

# Yifeng He

Department of Computer Science  
University of California, Davis  
☎ (530) 302-6806  
✉ [yfhe@ucdavis.edu](mailto:yfhe@ucdavis.edu)  
🌐 [yfhe.net/about](http://yfhe.net/about)

## Curriculum Vitae

### Research Interests

My research interests lie in AI-driven software security and engineering, as well as in ensuring the security of AI models. I focus on developing novel AI-based techniques for testing software systems, libraries, and applications.

### Education

- 2023-present **Ph.D., Computer Science**, *University of California, Davis*.
- 2019-2023 **B.S., Computer Science, Applied Math**, *University of California, Davis*.

### Publications

#### In Conference Proceedings

- 2025 **Yifeng He**, Luning Yang, Christopher Gonzalo, and Hao Chen. Evaluating program semantics reasoning with type inference in system  $F$ . In *Neural Information Processing Systems (NeurIPS)*, 2025.
- 2025 **Yifeng He**, Jicheng Wang, Yuyang Rong, and Hao Chen. FuzzAug: Data augmentation by coverage-guided fuzzing for neural test generation. In *Findings of Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2025.
- 2025 **Yifeng He**, Ethan Wang, Yuyang Rong, Zifei Cheng, and Hao Chen. Security of ai agents. In *International Workshop on Responsible AI Engineering (RAIE)*, 2025.
- 2024 **Yifeng He**, Jiabo Huang, Yuyang Rong, Yiwen Guo, Ethan Wang, and Hao Chen. UniTSyn: A large-scale dataset capable of enhancing the prowess of large language models for program testing. In *International Symposium on Software Testing and Analysis (ISSTA)*, 2024.
- 2024 Jiabo Huang, Jianyu Zhao, Yuyang Rong, Yiwen Guo, **Yifeng He**, and Hao Chen. Code representation pre-training with complements from program executions. In *Conference on Empirical Methods in Natural Language Processing (EMNLP)*, 2024.
- 2023 Jianyu Zhao, Yuyang Rong, Yiwen Guo, **Yifeng He**, and Hao Chen. Understanding programs by exploiting (fuzzing) test cases. In *Findings of the Association for Computational Linguistics (ACL)*, 2023.
- 2022 **Yifeng He**. Big data and deep learning techniques applied in intelligent recommender systems. In *2022 IEEE 4th International Conference on Civil Aviation Safety and Information Technology (ICCASIT)*, pages 1119–1124, 2022.

#### Preprints

- 2024 Hongxiang Zhang, **Yifeng He**, and Hao Chen. Steerdiff: Steering towards safe text-to-image diffusion models, 2024.
- 2024 Hongxiang Zhang, Yuyang Rong, **Yifeng He**, and Hao Chen. Llamafuzz: Large language model enhanced greybox fuzzing, 2024.
- 2024 Jicheng Wang, **Yifeng He**, and Hao Chen. Repogenreflex: Enhancing repository-level code completion with verbal reinforcement and retrieval-augmented generation, 2024.

### Services

#### Reviewer / Program Committee

- 2025, 2026 International Conference on Learning Representations (ICLR)
- 2026 International Conference on Artificial Intelligence, Computer, Data Sciences and Applications (ACDSA)
- 2025 International Conference on Multimedia (MM)
- 2025 International Conference on Software Engineering Advances (ICSEA)
- 2025 Association for Computational Linguistics LLM Security Workshop (ACL-LLMSEC)

2025 Conference of the ACM Special Interest Group on Data Communication, Artifact Evaluation (SIGCOMM)

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## Awards

2023 **Citation for Outstanding Performance**, Department of Mathematics, UC Davis

2019-2022 **Dean's Honor List**, College of Letters and Science, UC Davis

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## Industry Experiences

04/2021- **Software Development Engineer Intern**, *ByteDance (Toutiao)*, Creator Income Platform.

- 07/2021
  - Used microservice tech to connect parts of the author income settlement business
  - Transformed author-relation data architecture design from relational database (SQL) to graph database (Gremlin) to allow better efficiency for the business model
  - Refactored the income calculation control process within Python 3

07/2021- **Software Development Engineer Intern**, *ByteDance (Xigua Video)*, Creator Experience Team.

- 08/2021
  - Created a data cleaner with ORM to maintain the size and readability of the online data settlement table
  - Created the offline flow of Medium-Length Video Encouragement Project for weekly data calculation
  - Built the interface for the frontend of the web and mobile app to display the data visualization