Dong Huang

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EDUCATION

Ph.D.   Computer Science, HKU, 2021-

B.S.   Materials Forming and Control Engineering, HUST, 2017-2021

RESEARCH AREAS

DNN Security: Adversarial and Backdoor

Code Generation: Correctness, Efficiency, and Fairness

PUBLICATIONS *MEANS CORRESPONDING AUTHOR*

Selected Preprints

2024   **Huang, Dong**, Jianbo Dai, Han Weng, Puzhen Wu, Yuhao Qing, Jie M. Zhang, Heming Cui, and Zhijiang Guo. "SOAP: Enhancing Efficiency of Generated Code via Self-Optimization." arXiv preprint arXiv:2405.15189 (2024).

2024   **Huang, Dong**, Yuhao Qing, Weiyi, Shang, Heming Cui, and Jie M. Zhang. "EffiBench: Benchmarking the Efficiency of Automatically Generated Code." arXiv preprint arXiv:2402.02037 (2024).

2023   **Huang, Dong**, Qingwen Bu, Jie Zhang, Xiaofei Xie, Junjie Chen, and Heming Cui. "Bias assessment and mitigation in llm-based code generation." arXiv preprint arXiv:2309.14345 (2023).

2023   **Huang, Dong**, Qingwen Bu, and Heming Cui. "Codecot and beyond: Learning to program and test like a developer." arXiv preprint arXiv:2308.08784 (2023).

2023   **Huang, Dong**, Qingwen Bu, Jie M. Zhang, Michael Luck, and Heming Cui. "Agentcoder: Multi-agent-based code generation with iterative testing and optimisation." arXiv preprint arXiv:2312.13010 (2023).

2023   **Huang, Dong**, Qingwen Bu, Yahao Qing, Yichao Fu, and Heming Cui. "Feature Map Testing for Deep Neural Networks." arXiv preprint arXiv:2307.11563 (2023).

Journal Articles

2024   **Huang, Dong**, Qingwen Bu, Yichao Fu, Yuhao Qing, Xiaofei Xie, Junjie Chen, and Heming Cui. "Neuron Sensitivity Guided Test Case Selection." ACM Transactions on Software Engineering and Methodology. **TOSEM 2024**

2021   Shixiong Zhao, Fanxin Li, Xusheng Chen, Xiuxian Guan, Jianyu Jiang, **Dong Huang***, Yuhao Qing, Sen Wang, Peng Wang, Gong Zhang, Cheng Li, Ping Luo, Heming Cui. "v pipe: A virtualized acceleration system for achieving efficient and scalable pipeline parallel dnn training." IEEE Transactions on Parallel and Distributed Systems 33, no. 3 (2021): 489-506. **TPDS 2021**

2021   Ji, Xiaoyuan, Qiuyu Yan, **Dong Huang**, Bo Wu, Xiaojing Xu, Aibin Zhang, Guanglan Liao, Jianxin Zhou, and Menghuai Wu. "Filtered selective search and evenly distributed convolutional neural networks for casting defects recognition." Journal of Materials Processing Technology 292 (2021): 117064. **JMPT 2021**

Conference Proceedings

2024 **Dong Huang**, Qingwen Bu, Yuhao Qing, Yichao Fu, Heming Cui. "Adversarial Feature Map Pruning for Backdoor." In The Twelfth International Conference on Learning Representations. **ICLR 2024**

2023 Bu, Qingwen, **Dong Huang**, and Heming Cui. "Towards building more robust models with frequency bias." In Proceedings of the IEEE/CVF International Conference on Computer Vision, pp. 4402-4411. 2023. **ICCV 2023**

2024 Wang, Junming, Zekai Sun, Xiuxian Guan, Tianxiang Shen, Zongyuan Zhang, Tianyang Duan, **Dong Huang**, Shixiong Zhao, and Heming Cui. "AGRNav: Efficient and Energy-Saving Autonomous Navigation for Air-Ground Robots in Occlusion-Prone Environments." arXiv preprint arXiv:2403.11607 (2024). **ICRA 2024**

RESEARCH COLLABORATIONS

Research Advisor and Collaborator

Dr.Heming Cui	Associate Professor at the HKU (Primary Advisor)
Dr.Jie M. Zhang	Lecturer (equivalent to Assistant Professor) at KCL
Dr.Xiaofei Xie	Assistant Professor at SMU
Dr.Junjie Chen	Associate Professor at TJU
Dr.Michael Luck	Professor at KCL and Deputy Vice-Chancellor and Provost at the University of Sussex
Dr.Weiyi Shang	Associate Professor at the University of Waterloo
Dr.Mark Harman	Professor at UCL and Research Scientist at Meta
Dr.Zhijiang Guo	Incoming Assistant Professor at HKUST (GZ)

Research Mentoring

Qingwen Bu	Undergrad at HUST, to PhD at SJTU
Junming Wang	Mphil at HKU, to Horizon Robotics
Zhiguang Han	Undergrad at NTU
Weng Han	Master at BUPT
Puzhen Wu	Undergrad at UCD

TEACHING

2024 COMP7506A/B: Smart phone apps development