

# Yingao (Elaine) Yao

✉ [elainey@ece.ubc.ca](mailto:elainey@ece.ubc.ca)  
🌐 [Personal Website](#)  
🐙 [Github](#) [in](#) [Linkedin](#)

## Education

- 09/2021– **University of British Columbia, Vancouver, Canada.**  
12/2022 *MASc student in Electrical & Computer Engineering; Avg. Score: 85.3/100*  
(expected) Advisor: Karthik Pattabiraman
- 09/2017– **University of Electronic Science and Technology of China, Chengdu, China.**  
6/2021 *B.E. in Electrical & Communication Engineering; GPA: 3.96/4.0*

## Publications

- DSN'23 **SwarmFuzz: Discovering GPS Spoofing Attacks in Drone Swarms.**  
**Yingao (Elaine) Yao**, Pritam Dash, Karthik Pattabiraman  
*IEEE/IFIP International Conference on Dependable Systems and Networks, 2023. (Acceptance rate: 20%)*
- CCS'22 **Poster: May the Swarm Be With You: Sensor Spoofing Attacks Against Drone Swarms.**  
**Yingao (Elaine) Yao**, Pritam Dash, Karthik Pattabiraman  
*ACM SIGSAC Conference on Computer and Communications Security, 2022.*

## Employment Experience

- 2021 – **Research Assistant, University of British Columbia.**  
present Advisor: Karthik Pattabiraman
- 2021 – **Teaching Assistant, University of British Columbia.**  
present CPEN 333 - Software Engineering.

## Project Experience

- 02/2022 – **Is the Synthesized Scene in the Autonomous Driving Realistic?.**  
05/2022 Evaluated the feasibility of the MSF-ADV (the attack targets at both camera and LiDAR sensors) on autonomous driving cars under different driving scenarios. Tested with YOLOv3 and KITTI dataset.  
Advisor: Karthik Pattabiraman, University of British Columbia.
- 02/2022 – **Measuring Context Switches in Serverless Environment..**  
05/2022 Measured the context switch time in Google Cloud Function via benchmarks such as pingpong pipes, conditional variable and Lmbench. Analyzed the factors influencing the context switch time.  
Advisor: Mohammad Shahradd, University of British Columbia.
- 09/2021 – **Encryption in ICS Networks: Is it enough?.**  
12/2021 Leveraged the side-channel information leaks in the observed network pattern, to design the DoS attacks in Industrial Control Systems (e.g., SWaT testbed) equipped with encrypted network protocols.  
Advisor: Aastha Mehta, University of British Columbia.

## Honors & Awards

- 2022 **Faculty of Applied Science Graduate Award**, CAD 600, University of British Columbia.
- 2020 **Outstanding Winner (0.2%)**, in COMAP Interdisciplinary Contest in Modeling.
- 2020 **Thanksgiving Scholarship for Modern Scientists**, CAD 4000, 12 per school per year.
- 2020 **National Scholarship**, CAD 1600, for top 1.5% students per school.
- 2019 **National Second Prize (3%)**, in China Undergraduate Mathematical Contest in Modeling.

## Skill Summary

Programming Python, C, C++, Bash, Java, Matlab  
Tools ArduPilot, Linux, IDA Pro, Git