

Henry C. Wong

PhD Student

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RESEARCH INTERESTS

I study cyberbiosecurity in the genomics space. Specifically, synthetic DNA manufacturing and AI genomic foundation models. My research informs the design of these systems to be trustworthy, safe, unbiased, and resilient to attacks.

RESEARCH APPOINTMENTS

ERA 2026 -

AI X Biosecurity Fellow

Cambridge, UK

Currently working with the International Biosecurity and Biosafety Initiative for Science (IB-BIS) to tackle synthetic DNA screening and hardware related benchtop synthesizer problems.

University of Washington

2024 -

Graduate Research Assistant with Profs. Tadayoshi Kohno and Jeff Nivala Seattle, WA USA

Currently in the Security & Privacy Lab and the Molecular Information Systems Lab.

Sandia National Laboratories

2022-2025

Research Scientist & PI (Cybersecurity, AI, & Genomics)

Albuquerque, NM

Led projects in Genomic Foundation Model fine-tuning and training, agentic AI development, and cybersecurity red-team exercises. Raised \$2 million in funding.

Washington University in St. Louis

2021

Graduate Research Assistant with Prof. David Spencer

St. Louis, MO

Updated lab's bioinformatics infrastructure and aided in data analytics on multiple papers.

Missouri University of Science & Technology

2019-2022

Graduate Research Assistant with Profs. Tie Luo and Prof. Jennifer Leopold

Rolla, MO

Led projects on offensive attacks around Internet-of-Things devices.

EDUCATION

University of Washington

2024 -

Ph.D., Paul G. Allen School of Computer Science & Engineering

Seattle, WA

Advisors: Profs. Tadayoshi Kohno & Jeff Nivala

Missouri University of Science & Technology

2016 - 2022

BS., MS., Computer Science

Rolla, MO

Thesis: "Man-in-the-Middle Attacks on MQTT based IoT networks"

Advisors: Prof. Jennifer Leopold

PEER-REVIEWED PUBLICATIONS AND POSTERS

Papers

Henry Wong, Tadayoshi Kohno, Jeff Nivala. "DNAS-Bench: Deterministic Nucleic Acid Screener Benchmarking". 47th IEEE Symposium on Security and Privacy (S&P), 1st International Workshop on Cyberbiosecurity (CyberBio), May 2026.

Henry Wong, Tie Luo. “*Man-in-the-Middle Attacks on MQTT-based IoT Using BERT based Adversarial Message Generation.*” 26th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD), 3rd AIoT Workshop, August 2020.

Posters

Henry Wong. “*Genetically Modifying Plants for Drone Based Adversarial Computer Vision*” UW CSE Research Poster Showcase, October 2024.

INVITED TALKS

CSE484 Introduction to Computer Security at University of Washington, March 2026, Seattle, WA USA: “Protecting Nation States From Bioterrorism”

U.S. Senate Committee on Energy and Natural Resources, 2024. “AI use in Identifying Orphan Wells” (Supporting Staff)

ML/DL National Laboratory Workshop, July 2023. ”Cost of Large Language Model Solutions For National Security”

SERVICE

Professional

2026- ,Sequence Biosecurity Risk Consortium

Program Committee

CyberBio26, The First International Workshop on Cyberbiosecurity *Collocated with IEEE Symposium on Security and Privacy 2026*

Conference Organization

2025, USENIX Student Volunteer

2020, KDD Session Chair Student Volunteer

Community Leadership at University of Washington

2025-2026, CSE New Grad Orientation Co-Organizer

2025-2026, CSE Visit Days Co-Organizer

2026, New Grad (First-Year PhD) Mentor

2025, UW PhD Application Reviewer

Community Leadership & Service at Missouri S&T

2020-2022, Computer Science Chair Search Committee

2020-2022, Computer Science Professor Search Committee

2020-2022, Co-Founder and CS Representative for the Council of Graduate Students

2020-2022, Founder of the Asian American Association

2022, Computer Science Representative to Faculty Senate

2020, Computer Science Representative to the COVID Rapid Response Committee

2018-2020, Co-founder of the Missouri S&T Chapter of Society of Asian Scientists and Engineers

TEACHING EXPERIENCE

Teaching Assistant, University of Washington

CSE 484: Computer Security and Privacy

Fall 2025, Winter 2025

Lecturer , Missouri University of Science & Technology <i>CS5400: Introduction to AI</i>	2024
Lecturer , Missouri University of Science & Technology <i>CS1570: Introduction to Computer Science in C++</i>	2022-2024

AWARDS AND GRANTS

2024 UW College of Engineering Dean's Fellowship

2022 2nd Place at Missouri S&T Graduate Poster Competition, *Man-in-the-Middle Attacks on MQTT based IoT networks*

2022 Council of Graduate Students Community Leadership Award

2020 Student Grant to ACM KDD

2019 Missouri S&T Computer Science Mentor Award

2017 26th in CTF Time United States Ratings (M57) with a team of 6 students

2016-2020, Dean's List, Missouri S&T

ADDITIONAL EXPERTISE AND SKILLS

Languages	English (native), Cantonese (professional)
Programming	C/C++, Python, R, Julia, SQL, Rust
AI/ML	PyTorch, TensorFlow, LangChain
Security	Red Team, Penetration Testing, Hardware Analysis, Reverse Engineering (Ghidra, Ida Pro)

NON-RESEARCH APPOINTMENTS

Liberty Mutual Insurance <i>Cyber Security AI Intern</i>	2019 Portsmouth, NH USA
The Boeing Company <i>Cyber Security Intern for National Security</i>	2018 St. Louis, MO USA
State Farm <i>Software Engineering Intern</i>	2016-2017 Bloomington, IL USA

GOVERNMENT CLEARANCES

U.S Q Level Government Clearance (Department of Energy) <i>Sandia National Laboratories</i>	May 2022
U.S Secret Level Government Clearance (Department of Defense) <i>The Boeing Company</i>	May 2019