MIKE WONG

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RESEARCH INTERESTS

Efficient ML inference, ML+systems, computer networks and systems

EDUCATION

Princeton University *Aug 2021 – May 2026 (expected)*
Ph.D. in Computer Science
Advisor: Ravi Netravali

Princeton University *Aug 2021 – Sep 2023*
M.A. in Computer Science

New York University *Aug 2015 – Dec 2019*
B.A. in Computer Science with a minor in Mathematics

EXPERIENCE

Graduate Research Assistant, Princeton University *Aug 2021 - Present*
Advisor: Ravi Netravali

Research Intern, Microsoft Research *May 2025 - Aug 2025*
Cloud Systems Reliability Research Group

Research Intern, Microsoft Research *June 2022 - Aug 2022*
Networking Research Group

Computer Scientist, National Security Agency *Feb 2020 - Aug 2021*
Contributed to Ghidra and developed tools for ML-driven malware analysis

Research Assistant, Rutgers University *June 2020 - Jan 2021*
Advisor: Srinivas Narayana

Research Assistant, Courant Institute of Mathematical Sciences *May 2019 - June 2020*
Advisor: Anirudh Sivaraman

Computer Science Co-op, National Security Agency *Aug 2016 - Dec 2019*

PUBLICATIONS

Peer-Reviewed Conference Papers

1. **MadEye: Boosting Live Video Analytics Accuracy with Adaptive Camera Configurations**
   Mike Wong, Murali Ramanujam, Guha Balakrishnan, Ravi Netravali
   USENIX NSDI 2024
   Paper

2. **NetVigil: Robust and Low-Cost Anomaly Detection for East-West Data Center Security**
   Kevin Hsieh*, **Mike Wong***, Santiago Segarra, Sathiya Kumaran Mani, Trevor Eberl, Anatoliy Panasyuk, Ravi Netravali, Ranveer Chandra, Srikanth Kandula (* equal contribution)
   USENIX NSDI 2024
   Paper

3. **Marvolo: Programmatic Data Augmentation for Practical ML-Driven Malware Detection**
   Mike Wong, Edward Raff, James Holt, Ravi Netravali
   ECML PKDD 2023

Previous version in AI4Cyber/MLHat at KDD 2022
Paper

4. **Synthesizing Safe and Efficient Kernel Extensions for Packet Processing**
Qiongwen Xu, **Michael D. Wong**, Tanvi Wagle, Srinivas Narayana, Anirudh Sivaraman
ACM SIGCOMM 2021
Also accepted as a talk to the BPF & Networking Summit at Linux Plumbers Conference 2021
Paper

5. **Testing Compilers for Programmable Switches Through Switch Hardware Simulation**
Michael D. Wong, Aatish Kishan Varma, Anirudh Sivaraman
ACM CoNEXT 2020
Paper

6. **Switch Code Generation Using Program Synthesis**
Xiangyu Gao, Taegyun Kim, **Michael D. Wong**, Divya Raghunathan, Aatish Kishan Varma, Pravein Govindan Kannan, Anirudh Sivaraman, Srinivas Narayana, Aarti Gupta
ACM SIGCOMM 2020
Paper

Peer-Reviewed Workshop Papers

1. **Bolstering Binary Datasets for Malware Detection Through Programmatic Data Augmentation**
Michael D. Wong, Edward Raff, James Holt, and Ravi Netravali
AI4Cyber/MLHat at KDD 2022

Other Papers

1. **GPUs, CPUs, and ... NICs: Rethinking the Network's Role in Serving Complex AI Pipelines**
Mike Wong, Ulysses Butler, Emma Farkash, Praveen Tammana, Anirudh Sivaraman, Ravi Netravali
arXiv:2502.15712, February 2025
Paper

PATENTS

1. **Detecting Network Anomalies Using Network Flow Data**
Tsuwang Hsieh, Santiago Martin Segarra, Sathiya Kumaran Mani, Srikanth Kandula, **Michael Dean Wong**
US patent App. 18/367,775

TEACHING

Teaching Assistant, Princeton University *Aug 2023 - Dec 2023*
COS 316: Principles of Computer System Design

Teaching Assistant, Princeton University *Jan 2023 - May 2023*
COS 561: Advanced Computer Networks

VOLUNTEER EXPERIENCE

Instructor, Prison Teaching Initiative (teaching incarcerated students) *Sep 2025 - Dec 2025*
MATH 020: Elementary Algebra

Instructor, Prison Teaching Initiative (teaching incarcerated students) *Jan 2025 - May 2025*
MATH 101: Number Systems

HONORS/AWARDS

NSDI Travel Grant, USENIX Association *Apr 2024*

Ross Fellowship (declined), Purdue University *Feb 2021*

University Honors Scholar, New York University *Dec 2019*

Dean's List, New York University *Aug 2016 - June 2017*

U.S. Air Force ROTC Scholarship, U.S. Air Force *June 2015*