PRADYUMNA SHOME

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Education

Georgia Institute of Technology   Atlanta, GA
Doctor of Philosophy – PhD, Computer Science   *August 2022 – May 2028*
Master of Science – MS, Computer Science   *August 2022 – December 2024*

University of Illinois at Urbana-Champaign   Champaign-Urbana, IL
Bachelor of Science – BS, Computer Science   *August 2017 – May 2021*

Achievements: Pwnie Award, Best Cryptographic Attack ● Intel Hardware Security Academic Award Honorable Mention
● Malwarebytes Cybersecurity Scholarship ● KP Engineering Fellowship Finalist ● CS Outstanding Course Assistant Award

Security and Privacy Experience

Flashbots   Atlanta, GA
Research Intern   *May 2024 – August 2024*

- Studied side-channel vulnerabilities and mitigations for Ethereum VM instances and PBS auctions on Intel TDX
- Published blog posts on IC3 Summer Camp / Hackathon, Intel TDX security, and page fault side-channel mitigations

Georgia Institute of Technology   Atlanta, GA
Researcher, Human Factors in Security and Privacy   *January 2024 – Present*

- Published poster on a user study of security and privacy concerns with Generative AI Chatbots at SOUPS 2024

Researcher, Hardware Security and Microarchitectural Side-Channel Attacks   *August 2022 – December 2023*

- Designed GoFetch attack on Diffie-Hellman Key Exchange; performed hardware reverse engineering and pixel stealing
- Performed literature review on DRAM security; Paper: SoK: Rowhammer in the Post-TRR Era

Security and Privacy Research at Illinois   Urbana, IL
Researcher   *August 2019 – May 2021*

- Surveyed CompArch literature in detail, implemented processor optimizations via gem5, and conceptualized attacks
- Paper: *Opening Pandora's Box: A Systematic Study of New Ways Microarchitecture Can Leak Private Data*
- Used information flow tracking and program analysis to automate identification of side-channel vulnerabilities

Software Engineering Experience

Meta (formerly Facebook)   San Francisco Bay Area, CA
Software Engineer · Messenger Growth   *September 2021 – August 2022*

- Created features that help friends start meaningful 1:1 conversations based on content they mutually enjoy, using Hack

Software Engineering Intern · Privacy Control Infrastructure, Privacy and Data Use Org   *September 2020 – December 2020*

- Developed framework that supports 2 billion daily mutations to profile-level privacy settings

Salesforce   San Francisco, CA
Software Engineering Intern · Records Experience, Platform Cloud   *June 2019 – August 2019*

- Created recommendation system for automatic test case suggestions; reduced 13 work days per sprint planning session

Virtusa   New York, NY
Software Engineering Intern · Media & Content Division   *July 2018 – August 2018*

- Created serverless AWS app for semantic, fine-grained video search through time series analysis on video frames

HackIllinois   Urbana, IL
Software Engineer · Systems Staff   *April 2018 – February 2019*

- Developed Go microservices for user and event management, authorization, and cloud notifications for 2.5K+ users

Technical Skills

- **Programming Languages**: Python, Go, Java, C, C++, Rust, Kotlin, HTML, CSS, JavaScript, Haskell

Last updated: September 9, 2024.