Eric Thomas Schneider

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Education

Virginia Tech May 2029 (expected)
Computer Science (PhD)
Advisor: Dan Williams
GPA: 4/4
Select courses (all grad): Binary Exploitation, Research Methods, Advanced Linux Kernel Programming.
Select courses (fall 2025): Networking, Machine Learning.

University of North Carolina at Chapel Hill May 2024
Computer Science (MS)
Select courses: 2D Computer Graphics, Research Topics in Security (grad), Computer Vision (grad), Interactive Computer Graphics, Hardware Security and Side Channels (grad).

University of North Carolina at Chapel Hill May 2023
Computer Science (BS), Mathematics (BS)
GPA: 3.632/4
Select courses: Web, Languages and Computation, Databases, Compilers, Programming Language Concepts, Algorithms and Analysis, Operating Systems, Operating System Implementation (grad), Digital Logic, Research Topics in Operating Systems (grad), Software Engineering Laboratory, Differential Equations, Linear Algebra, Mathematical Methods for the Sciences, Combinatorics, Probability, Real Analysis, Numerical Analysis, Advanced Linear Algebra.

Research

ROSA (VT Computer Science Department) Aug 2024-present

- Research trusted execution environments and eBPF under Prof. Dan Williams.
- Contributed to upcoming paper, *Taming Long-Running eBPF Extensions with Stub-Accelerated Termination* (submitted to USENIX ATC ‘25).
- Explore CPU/AMD and GPU/NVIDIA covert channels and sandboxing.
- Explore media attestation using ARM CCA.
- Serve on ASPLOS 2025 Artifact Evaluation Committee.

OSCAR (UNC Computer Science Department) Jan 2023-May 2024

- Researched optimization of Gramine library OS using Intel SGX2 under Prof. Donald Porter.
- Contributed to upcoming paper, *Adaptive and Efficient Dynamic Memory Management for Hardware Enclaves* (accepted at SYSTOR ‘25).
- Managed Gramine benchmarking.
- Wrote literature review on mechanisms of memory protection.
- Explored port of Keystone TEE to uClinux.
- Served on ASPLOS 2024 Artifact Evaluation Committee, earning Certificate of Appreciation.

AD∆ER (UNC Computer Science Department) May 2023-Dec 2023

- Researched asynchronous video representation under Andrew Freeman, Prof. Ketan Mayer-Patel, and Prof. Montek Singh, funded by the Laboratory for Analytical Sciences (LAS) in summer 2023.
- Implemented transcoder bandwidth limiting feature in Rust.
- Implemented logging feature to Rust implementation of DVS Fast algorithm.
- Ported AD∆ER to Windows and improved CI using GitHub Actions.
- Wrote a survey paper.

Publications

Adaptive and Efficient Dynamic Memory Management for Hardware Enclaves
Vijay Dhanraj, Harpreet Singh Chawla, Daniel Manila, **Eric Thomas Schneider**, Erica Fu, Mona Vij, Chia-Che Tsai, Donald E. Porter
ACM International Systems and Storage Conference (SYSTOR), 2025.

Teaching

Teaching Assistant (VT Computer Science Department) Aug 2025-present

- Tutor students in Data Structures and Software Design (CS 2114) under Prof. Margaret Ellis and Prof. Mohammed Farghally (fall 2025).

Teaching Assistant (UNC Computer Science Department) Aug 2023-May 2024

- Tutored students in Systems Fundamentals (COMP 211) under Prof. Brent Munsell and Operating Systems (COMP 530) under Prof. Donald Porter (fall 2023).
- Tutored students in Compilers (COMP 520) under Syed Ali (spring 2024).
- Managed quizzes, midterms, and the final.
- Managed and contributed towards labs and associated autograders, using Bash, Python, C, and Java.
- Graded classwork, responded to student questions on Piazza and CampusWire.

Undergraduate Teaching Assistant (UNC Computer Science Department) Aug 2020-May 2023

- Tutored students in Systems Fundamentals (COMP 211) for 5 semesters about C programming and systems concepts (such as data representation, memory management, virtual memory, debugging), under Prof. Kris Jordan (fall 2020), Prof. Ketan-Mayer Patel (spring 2022), and Prof. Brent Munsell (spring 2021, fall 2021, spring 2023).
- Tutored students in Operating Systems (COMP 530) for 1 semester (fall 2022) about advanced systems concepts (such as I/O, virtual memory, scheduling, concurrency, file systems), under Prof. Donald Porter.
- Managed quizzes, midterms, and the final (spring 2023).
- Managed, contributed towards, and wrote labs and associated autograders, using Bash, Python, and C.
- Graded classwork, responded to student questions on Piazza, CampusWire, and GroupMe.
- Collaborated to create a website to archive course material, using HTML, CSS and Bulma.

Industry Experience

Nutanix

Software Developer Intern for Nutanix Database Services (NDB) May 2024-August 2024

- Contributed to support for Nutanix Object Storage and Prism Central in NDB using Spring and React.js.
- Implemented Object Store storage consumption monitoring feature in NDB.

VMware

Software Developer Intern for VMware Telco Cloud Platform RAN May 2022-August 2022

- Separated complex Flink-based streaker microservice into session collator and KPI composer microservice to increase product reliability, decrease complexity, and support VMware Centralized RIC, a non-real time RAN Intelligence Controller.

Software Developer Intern for VMware Uhana May 2021-August 2021

- Migrated real-time streaming decoder microservice to Flink from Kafka Streams in Java, used to decode raw data from Kafka into protobuffers, processing >1 million messages/second in production.

Skills and Interests

- Software engineering, hardware, wikis, teaching, research.
- Applications/scripting: Java, Ruby, Groovy, Python, SQL, Lisp, Lua, C#, MATLAB, Mathematica.
- Systems: C, Assembly (x86, MIPS, RISC-V), Rust, C++, CUDA, Verilog.
- Web: MediaWiki, JavaScript/TypeScript, HTML, CSS, Node.js, Vue.js, Nuxt.js, express.js, React.js, WebGL.
- Tools: Bash, Git, Docker, Kubernetes, Make, Kafka, Kafka Streams, LaTeX.

- Mathematics (applied, calculus, algebra, proofs).
- Running (7 marathons), triathlon, weight training, international affairs, Spanish (basic).

Notable Projects

- **Official FTB Wiki** Administer/edit wiki (>55k edits), using wikitext, Lua, JavaScript, CSS
- **NeuroRuler** Contributed to Python tool to measure head circumference of MRIs
- **JOS** Implemented portions of operating system in C/x86 Assembly
- **MagnumVM** Created process virtual machine in Rust, winning 1st in small hackathon
- **Psil** Created medium-sized Lisp-like programming language in Rust
- **miniJava** Created compiler for Java subset in Java
- **Tar Heel Calendar** Created backend for calendar website using express.js and MariaDB
- **Personal website** Created website, originally in plain HTML/CSS/JS, later Vue/TypeScript
- **Long Fall Boots** Ported/maintained popular Minecraft mod (~18m downloads) in Java
- **ATT-9001** Created tool for scraping tile translations for wiki in Ruby
- **ESAEBSAD** Created IRC/Discord bots used for automated wiki tasks in Ruby
- **Flaxbeard's Steam Power** Contributed to popular Minecraft mod (~1m downloads) in Java
- **Nuclear Control 2** Ported/maintained popular Minecraft mod (~6m downloads) in Java