Brian Xie

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EDUCATION

University of Maryland, College-Park **Expected Graduation:** May 2026

B.S. Computer Science: Machine Learning

B.S. Applied Mathematics

- *Honors Program*: Advanced Cybersecurity Experience for Students (ACES)
- *Scholarship*: Full Bannaker/Key Merit Scholar

EXPERIENCE

Undergraduate Research Assistant **June 2023 - Present**

University of Maryland College-Park *College-Park, MD*

- Devising effective solutions to optimize and enhance the speed of virtual machines by conducting comprehensive experimentation to troubleshoot performance and booting issues.
- Identify compatibility issues across multiple API versions and Ubuntu distributions, employing diverse repair methods to ensure reliable file transfers and system availability.

Algorithm Problem Developer Intern **Aug. 2023 – Aug. 2023**

Anne Arundel County Public Schools *Annapolis, MD*

- Leveraged a deep understanding of programming concepts and instructional design principles to create engaging and effective evaluation problems.
- Designed a comprehensive curriculum under a tight deadline, ensuring it covers all essential fundamental skills.

PROJECTS

- **Java Fundamental Debug Learning Application** - Implemented, using Slick2D a user-friendly GUI to facilitate seamless interaction with a well-structured, appropriately sized environment. This includes employing parsing and command-line configuration for user interaction. Additionally, incorporated core debugging principles within the application to create engaging and interactive educational tools.
- **Linux Threat Actor Information Collection System -** Deployed self-recycling honeypots mimicking University systems, actively attracting and capturing 22,000 breaches. Employed NAT rules and scripts to enforce permanent bans after access and deploy strategically varied filtering command sets to detect common commands used by potential attackers, including scripts and botnet attacks. Utilized Bash and Python collection scripts to efficiently parse and transform data into CSV formatted text files, enabling smooth statistical testing and analysis.
- **Java Network Packet Simulation Tool -** Skilled in leveraging the Slick2D library to craft a front-end visualization interface, depicting data packet flow among interconnected systems, and fostering user interaction and comprehensive information display under tight deadlines. Crafted Command-Line interfaces inspired by Linux conventions adept at parsing abstracted, lemmatized NAT commands within the tool interface, ensuring efficient execution of user commands.

SKILLS

Programming languages: Java, Python, JavaScript, C, Bash, MATLAB, HTML/CSS, SQL, Ocaml

Tools/Frameworks: Git, Command Line, Virtual Box, JUnit, Windows, Linux, Unix, VScode, Eclipse, WSL, MobaXterm

Language: English, Mandarin Chinese