# Zacharia Kornas

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As an Informatics student at the University of Washington and dedicated teaching assistant in cybersecurity, I am passionate about fostering a culture of security awareness and empowering individuals with the knowledge and skills to protect against digital threats.

## EDUCATION

**University of Washington**, Seattle, WA
Dean's List, 3.9 GPA
Bachelor of Science, Major: Informatics
*Relevant Courses:* Foundations of Programming I/II, Data Science Foundations, Client-Side Development, Information Assurance and Cybersecurity, Information Ethics and Policy, Data Structures and Algorithms, Networking and Distributed Systems, Data Science I, Databases and Data Modeling.

## SKILLS

**Programming Languages:** Java, Python, Javascript, PHP, HTML, CSS, and R.
**Technologies:** Metasploit, Nmap, ZAP, Wireshark, Node.js, Docker, Azure, Git/GitHub, Postman, STRIDE, Linux.
**Concepts:** Object-oriented design, Software Development Life Cycle, TCP/IP and Networking Fundamentals, Risk Management, MITRE ATT&CK Matrix, PCAP Analysis, NIST Cybersecurity Framework, OWASP.

## EXPERIENCE

**University of Washington, Information School**
Teaching Assistant INFO 310 - Information Assurance and Cybersecurity **Sep. 2023 – Present**

- Assisting students in understanding fundamental cybersecurity concepts.
- Developing web applications for students to deploy in Docker, allowing students to apply security concepts learned in lecture in a practical and secure environment.
- Working with instructor to improve course materials, assignments, and lab exercises to enhance learning experience.
- Leading weekly labs to provide learning support by demonstrating practical cybersecurity skills and tools.

**University of Washington, Academic Technologies**
Systems Consultant **Jan. 2022 – Dec. 2023**

- Developed and maintained macOS and Windows disk images and application packages for rolling deployment.
- Assessed and ensured adequate security protocols were followed for over 300 machines across multiple locations.
- Monitored and responded to ongoing security risks throughout the lab.

## RESEARCH PROJECTS

**University of Washington**
Tor Research (SimulaTor) **Feb. 2023 - Present**

- Designing and conducting an experimental study to explore bandwidth inflation to alter traffic of the Tor network through malicious relays.
- Deployed 13 Raspberry Pis configured as various types of nodes to simulate a micro-Tor network.
- Developing "SimulaTor"; a framework for constructing a simulated Tor network using physical nodes to help support efforts of replicability in security research.
- Prototyping alternative bandwidth measuring solutions that are not vulnerable to bandwidth inflation attacks.

## PERSONAL PROJECTS

**University of Washington**
Multiplayer Tic-Tac-Toe - *github.com/zkornas/TicTacToeRFC* **May 2023 - June 2023**

- Developed a multiplayer Tic-Tac-Toe game in Java, adhering to the Tic-Tac-Toe protocol RFC to enable users across diverse platforms to connect to a central server and engage in seamless, real-time gameplay.
- Designed a robust client-server architecture to manage player communication and synchronize sessions.
- Ensured sophisticated error handling and input validation mechanisms to maintain uninterrupted interactions between clients and the server.

**University of Washington**
Dub Dumps - *github.com/info340b-sp22/Dub-Dumps* **Apr. 2022- June 2022**

- Created a react-based website for students to easily find and rate campus bathrooms using school email authentication. Implemented sorting by proximity, accessibility, and ratings for user-friendly experience
- Utilized firebase for secure user data management and hosting.
- Developed for the full stack by constructing an intuitive U.I. as well as optimized data logic for structured queries.