HANNAH R. MARSH

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Summary

An accomplished Ph.D. student at Tufts University with a strong background in computer science, currently seeking a part-time software engineering role. Experienced across multiple programming languages and paradigms, web development, and cybersecurity, demonstrated through internships and academic projects.

Skills

- Object-Oriented Programming:
  - Java, C++, Swift
- Functional/Hybrid Programming:
  - Scala, Python, Go, JavaScript
- Procedural Programming:
  - C, bash
- Web Development:
  - HTML, CSS, TypeScript/JavaScript (NodeJS, Angular, Ruby)
- Version control: git
  - BitBucket, GitLab, GitHub
- Satellite Communication Systems:
  - Ground system operations
  - Integrating satellite payloads
- Cybersecurity Principles and Applications
- Microservice Design
- API Development
  - REST
- Agile & Scrum Methodologies

Experience

Kratos Defense and Security Solutions | San Diego, CA
Software Engineer Intern
05/2023 - 08/2023

- **Role:** Conceptualized, designed, and developed a website for integrating interactive Platform-Focused User Interface elements, boosting user interaction metrics by over 15%.
- **Outcome:** Orchestrated and executed a detailed demonstration of the project's impact to senior executives, receiving critical acclaim and an offer for a full-time Software Engineer position based on proven capabilities (declined to pursue PhD).

Kratos Defense and Security Solutions | San Diego, CA
Software Engineer Intern
05/2022 - 08/2022

- **Role:** Migrated several legacy satellite drivers, improving compatibility and increasing performance for critical hardware components, resulting in a 25% improvement in system compatibility and performance.
- **Outcome:** Presented the strategic benefits of the upgrades to senior management, which significantly influenced the decision to extend an offer for continued part-time employment and a return internship.

Education

Tufts University | Medford, MA
Doctor of Philosophy in Computer Science
Expected graduation by 2028

University of New Hampshire | Durham, NH
Bachelor of Science in Computer Science
Graduated 05/2024

- 3.96 GPA
- Graduated summa cum laude

Honors & Awards

- **Highest Honors** – May, 2023, 06/2023, *University of New Hampshire Dean's List*
- **S. Robert Levine and Craig R. Benson Technology Scholarship**, 05/2023
- **Highest Honors** – May, 2022, 06/2022, *University of New Hampshire Dean's List*
- **NASA Space Grant Scholarship**, 12/2021

Research

A Selective Replication Solution to Reduce Database Instability

Independent Study, University of New Hampshire
11/2024 - PRESENT

- **Innovation:** Engineered and simulated complex database interactions using Go-lang to model the effects of cache node failures on system stability, improving our understanding of fault tolerance mechanisms.
- **Implementation:** Developed and implemented a novel selective replication strategy across cache nodes achieving significant enhancements in system resilience. Ongoing assessments aim to optimize and validate this approach.
- **Impact:** Preparing to author a comprehensive research paper that will outline the methodology, results, and potential industry applications of the study, aiming to contribute significantly to the field of database management systems.

Academic Projects

Mobile VR Lab

Capstone Experience, University of New Hampshire
08/2024 – 05/2024

- **Objective:** Develop an immersive VR educational system designed to blend guided tours with interactive 3D exploration.
- **Technologies Used:** Unity, Android studio, Oculus headsets, C#, Java, Rust.
- **Results:** Successfully showcased the Mobile VR Lab project at the University of New Hampshire's Undergraduate Research Conference (URC) in April 2024, demonstrating its effectiveness in an academic setting.

Activities

- Yoga
- Barre
- Hiking
- Oil painting
- Piano

Find Me Online

- Website: HannahMarsh.github.io
- LinkedIn: www.linkedin.com/in/hannah-marsh-636678291