HANNAH R. MARSH

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EDUCATION

Tufts University - Medford, MA   *May 2024 - PRESENT*
- (in-progress) Computer Science, Ph.D.

University of New Hampshire - Durham, NH   *January 2022 - May 2024*
- Computer Science Major, B.S.
- GPA: **3.96**

INDUSTRY EXPERIENCE

Software Engineer Intern - Kratos Defense and Security Solutions, San Diego, CA   *May 2023 - August 2023*
- Role:
  - Conceptualized, designed, and developed a website for integrating interactive Platform-Focused User Interface elements.
- Skills Gained:
  - Aerospace engineering & cybersecurity
  - Satellite communication security
  - Software development lifecycle

Software Engineer Intern - Kratos Defense and Security Solutions, San Diego, CA   *May 2022 - August 2022*
- Role:
  - Migrated several legacy satellite drivers, improving compatibility and increasing performance for critical hardware components.
- Skills Gained:
  - Satellite communication systems
  - Performance optimization
  - System Integration

RESEARCH EXPERIENCE

Independent Study, University of New Hampshire   *November 2023 - May 2024*
- **Department:** Computer Science
- **Advisor:** Dr. Aleksey Charapko, Assistant Professor
- Objective:
  - Explore and develop a selective replication solution to address database instability induced by cache node failure

- ○ Skills gained:
  - System architecture design
  - Concurrent programming
  - Research and analysis
  - Technical writing

ACADEMIC PROJECTS

Capstone Experience, University of New Hampshire   *September 2023 - PRESENT*
- ○ **Sponsors:** Thomas Butkiewicz, Ph.D., Drew Stevens, Ph.D.
- ○ **Project Title:** Mobile VR Lab for Immersive Educational Experiences
- ○ **Objective:**
  - Develop an immersive VR educational system for oceanography and marine biology, designed to blend guided tours with interactive 3D exploration, aimed to enhance student engagement and learning.
- ○ **Role:**
  - Software Developer
- ○ Skills gained:
  - Unity and Android development
  - VR design and server infrastructure development
  - Project management and technical documentation

HONORS & AWARDS

Highest Honors - 2023   *June 2023*
- ○ Issued by the University of New Hampshire Dean's List

S. Robert Levine And Craig R. Benson Technology Scholarship   *May 2023*

Highest Honors - 2022   *June 2022*
- ○ Issued by the University of New Hampshire Dean's List

NASA Space Grant Scholarship   *December 2021*

CORE COMPETENCIES

- Adept at fostering collaboration and working seamlessly with cross-functional teams.

- Skilled in critical thinking and problem-solving, with the ability to analyze challenging situations, identify root causes, and develop innovative and practical solutions.

- Exhibited initiative through proactive idea generation and a strong drive to take ownership of projects and outcomes.

- Exceptional verbal and written communication skills honed through extensive collaboration and technical documentation. Proficient at conveying complex technical concepts in a clear and accessible manner

TECHNICAL SKILLS

Satellite Communication Systems:
- ○ Experienced in the design, development, and testing of satellite communication systems, including familiarity with ground station operations and the integration of satellite payloads.

Cybersecurity:
- Deep understanding of cybersecurity principles and practices, with hands-on experience in developing and implementing security solutions for protecting information and systems.

Algorithm Analysis & Design:
- Skilled in understanding, evaluating, and developing efficient algorithms and performing complexity analysis.

Mathematical Proof and Logical Reasoning:
- Experienced in constructing rigorous mathematical proofs and conducting logical flow analysis.

Object-Oriented Programming:
- Demonstrated proficiency using Java, C++, and Swift to implement object-oriented systems.

Functional/Hybrid Programming:
- Experienced with Scala, Python, JavaScript, and Go to utilize hybrid and functional paradigms.

Procedural Programming:
- Utilized C and bash to build structured applications.

Web Development:
- Proficient in HTML, CSS, TypeScript, and back-end frameworks such as Angular, Node.js, Ruby.

API Development:
- Designed, implemented, and maintained RESTful APIs for a wide range of applications.

Agile:
- Applied Agile project management and Scrum methodologies to enhance project efficiency and collaboration.

Mobile App Development:
- Experienced using platforms such as Android Studio and XCode for developing mobile applications.

Version Control:
- Proficient with distributed version control systems such as Git and platforms such as BitBucket, GitLab, and GitHub.