



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