JACK MORGAN

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EDUCATION

University of New Hampshire (UNH) – Durham, NH **Expected: May 2027**
Bachelor of Arts in Computer Science: Cybersecurity

Related Coursework: Computer Organization and System Level Programming, Cybersecurity Practices, Data Structures and Algorithms, Professional Ethics and Communication in Technology, Foundations of Programming for Digital System

TECHNICAL SKILLS

Computer Languages: C, Java, Python, Assembly, Bash
Languages: English (Native), French (Conversational)

RELATED PROJECTS

Nadalin King of the Hill (KOTH) - Durham, NH **Sept 2025 – Present**
Team Member

- Participated in a semester long preparation for an 80-minute cybersecurity event where groups attack and defend compromised EC2 instances running AWS t3-micro
- Collaborated with "squad" to divide responsibilities based on members' skill set, as well as sharing ideas and feedback through regular meetings
- Developed a bash script, adhering to tight implementation constraints, that uses a stealthy systemd service to establish and maintain root privileges upon environment runtime
- Explored tools to maintain presence on other systems by exploiting privileges (SUDO, SUID), attacking vulnerable protocol implementations (SSH, HTTP), and foiling attempts at removal (system timers, blocking user access)
- Brainstormed an approach for securing and hardening our squad's own system through blue team concepts and tools learned in class (maintaining system access, file and network monitoring, finding and removing unknown processes)

C Implementation of an asx20 Assembler – Durham, NH **Sept 2025 – October 2025**
Programmer

- Developed a C-based two-pass assembler (titled asx20) that translates assembly files into object code that can be linked and executed by vmx20 (a toy 32-bit virtual machine capable of integer/floating point arithmetic)
- Utilized bit manipulation/masking to determine instruction formats, calculate PC-relative addresses, and generate encodings to be included in a final object file written in Little-Endian
- Implemented a symbol table using a Hash Table with Separate Chaining, along with support for an iterator that uses a Binary Search Tree (BST)
- Added robust error handling with over 20 unique logic cases, such as handling duplicate imports and exports, maintaining allocated addressing space, and enforcing instruction formatting

CAMPUS & LEADERSHIP ACTIVITIES

UNH Climbing Team – Durham, NH **September 2025 – Present**
Team Member

- Participate in training three times per week with coaches to prepare for all skill level competitions
- Assist in community service and fundraising initiatives to support team travel and expenses

ADDITIONAL EXPERIENCE

YMCA Camp Lincoln – Kingston, NH **June 2021 – August 2025**
Ropes Course Director

- Designed and implemented Local Operating Procedures (LOPs) to ensure safe and compliant programming
- Supervised a team of three staff, providing performance evaluations, feedback, and support
- Upheld and modeled the YMCA's four core values in program activities and staff interaction