TRIS S. BROOKE-CUNNINGHAM

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EDUCATION

University of Michigan, College of Engineering ---------- **Ann Arbor, MI**
B.S.E Computer Science
Minor in Digital Studies *August 2019 – December 2023*

- **GPA:** 3.33
- **Relevant Courses:** *Human-Centered Design, Cybersecurity, AI, Machine Learning, Web Systems, Database Design, Natural Language Processing, How algorithms see, History of Media, Human-Robot Systems*

PROFESSIONAL EXPERIENCE

Digital Studies Institute, University of Michigan ---------- **Ann Arbor, MI**
Technical Coordinator *December 2022 – Present*

- Creating technical documentation for technology in our office and organized those resources for ease of deployment.
- Communicating technical needs between faculty and administration to ensure needs are being met within our budget.

Digital Studies Institute, University of Michigan ---------- **Ann Arbor, MI**
Programming Assistant *August 2022 – Present*

- Planning and organizing events. Providing support during events and handling logistics to ensure smooth operation.
- Coordinate with student organizations and other internal departments to help make co-programming possible.
- Training new students in event planning procedures, familiarizing them with the Institute.

Michigan Union, University of Michigan ---------- **Ann Arbor, MI**
Building Manager *March 2022 – August 2023*

- Interfaced with clients, staff, and vendors for event operations purposes to make events in the building run smoothly.
- Secured building during morning or night shifts, ensured safety for all guests, clients, and staff.
- Managed and resolved technical issues concerning computers and audio/visual systems in event spaces.

NOTABLE PROJECTS & EXPERIENCES

Web Dev – Instagram Platform Clone ---------- **Coursework**

- Utilized React, Flask, and SQL to develop an Instagram-like platform with a partner. Deployed platform on AWS for testing
- Developed both dynamic and static pages, including an infinitely scrolling feed and double-tap-to-like using ReactJS.
- Organized framework for development to allow development to happen concurrently and with easy integration in the end.

Cybersecurity – Cryptography and Web Security ---------- **Coursework**

- Demonstrated the principles of good cryptographic algorithm design by Extension, Collision, and Padding-Oracle attacks.
- Performed cross-site-scripting and cross-site request forgery attacks to demonstrate the importance of good database design.
- Created a program to perform SQL injection attacks in a hashed password field by sending over 10,000 randomized requests.

Machine Learning – Support Vector Machines ---------- **Coursework**

- Investigated hyperparameter selection and model choices and their effect on SVM models with the SciKit Learn package.
- Analyzed the different performance metrics that can be used to determine accuracy in an SVM and the nuances of each.
- Drafted 27 pages of reporting on different SVM architectures to outline the different advantages of each architecture.

Digital Studies – VR Experiences Curriculum ---------- **Research**

- Researched VR Titles for Curriculum development for a course taught by Dr. Sara Blair, Vice Provost for Faculty Affairs.
- Performed User Experience research into a wide swath of VR titles to determine which would fit well with the course that Dr. Blair was intending to teach, focusing mostly on VR's ability to provide novel experiences and embody empathy in users.

ACTIVITIES & LEADERSHIP

Digital Studies Institute Advisory Board **Ann Arbor, MI**
Undergraduate Representative *January 2023 – Present*

Blavin Scholars Advisory Board **Ann Arbor, MI**
Undergraduate Representative *September 2023 – Present*

oSTEM **Ann Arbor, MI**
Club Member *September 2019 – Present*

SKILLS & INTERESTS

Soft Skills: Leadership, Teamwork, Communication, Technical Writing, Time Management, Adaptable, Problem Solving

Technical Skills: C++, Python, JavaScript, Java, React, SQL, MongoDB, Oracle Database, MATLAB

Interests: Music Production and Instruments, Digital Cultures, Human-Computer Interaction, Sustainability, Volunteer work