Taylor Webb

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Security Clearance: Secret

EDUCATION

Towson University, The Fisher College of Science and Mathematics — Towson, MD
Bachelor of Science in Computer Science — May 2025
Minor in Business Administration — GPA: 3.849
Relevant Coursework: Artificial Intelligence | Introduction to Machine Learning | Data Structures and Algorithms | Operating Systems | Database Management Systems | Object-Oriented Design & Implementation | Software Engineering | Web-Based Programming | Introduction to Astronomy

TECHNICAL SKILLS

Programming Languages: Python | Java | JavaScript | C++ | C# | SQL | Bash
Libraries/Frameworks: TensorFlow | PyTorch | Kornia | Astropy | scikit-learn | Pandas | NumPy | React | Node.js | Express.js
Tools & Technologies: HTML | CSS | RESTful APIs | Git | Jira | Linux | MongoDB | pytest | Sphinx
Concepts: Machine Learning | Deep Learning | Data Analytics | Data Engineering & Warehousing | OOP | Agile | Scrum

WORK EXPERIENCE

Space Astronomy Summer Program (SASP) Intern — Baltimore, MD
The Space Telescope Science Institute — June 2025 – August 2025
- Refactored CASPER, a Python-based stellar parameter estimation tool, alongside Dr. Jinmi Yoon using the Open Astronomy cookiecutter to improve code structure and research usability.
- Integrated custom logging, pytest unit tests, and Sphinx autodoc to enhance transparency, maintainability, and automated documentation.

Lab Administrator — Towson, MD
CIS TechHub, Towson University — August 2024 – May 2025
- Provide technical assistance to 1,700+ students and faculty in the CIS Department with technical questions, troubleshooting problems, network service access requests, and software installation.
- Mentor students in the effective use of computer resources, improving their technical proficiency and confidence.

Computer Science Intern — Aberdeen Proving Ground, MD
US Army DEVCOM C5ISR Center — June 2024 – January 2025
- Researched and implemented adversarial attack algorithms with the Machine Learning Research Team to evaluate their effectiveness and identify vulnerabilities in machine learning models.
- Conducted hyperparameter searches and optimized configurations by 18% to enhance model performance.

Astro Scholars Program Intern — Baltimore, MD
The Space Telescope Science Institute — January 2025 – January 2025
- Researched UV imaging technologies with Dr. Chris Evans and determined that a 6-meter aperture and 20-hour exposure time would optimize the signal-to-noise ratio for NASA's Habitable Worlds Observatory, while remaining within mission constraints.
- Collaborated with scientists and peers to explore astrophysics concepts and utilized Python with visualization libraries (e.g., Matplotlib, Seaborn) to simulate and present imaging outcomes.

PROJECTS

Stellar Parameter Estimation Pipeline – CASPER | *Python, pytest, Sphinx, Open Astronomy Cookiecutter*
- Designed a pipeline to estimate stellar parameters from low-resolution spectra of cool, metal-poor stars, using Maximum Likelihood Estimation and MCMC methods to support research in Galactic Archaeology.
- Automated spectral analysis through a Python-based pipeline that delivered chemical abundances and stellar parameters for cool stars (<5000K) at low spectral resolution (~R=2000).

ReelVibes Movie Recommender | *React.js, HTML, CSS, JavaScript, MongoDB, Node.js, Express.js,*
- Developed a full-stack web application that recommends movies based on user mood, genre preference, and streaming availability using MERN stack.
- Integrated the TMDb API to fetch real-time movie data—including posters, descriptions, and streaming info—to enhance recommendation accuracy and user engagement.

Towson Lost and Found Web Application | *React.js, SQL, HTML, CSS, JavaScript, Node.js, Express.js*
- Built a responsive Lost & Found web application for Towson University using MERN stack, enabling users to report and search for lost or found items across campus.