Noah Donnelly (OLD RESUME)

443-621-5071 | n07433921@gmail.com | Parkville, MD 21234

Education

Towson University, Towson, MD **Bachelor of Science in Computer Science** (Expected: May 2026)

- **Honors:** Dean's List (Spring 2025)

Technical Skills

- **Languages:** Python, Java, C, Assembly(x86)
- **Concepts:** Data Structures & Algorithms, Operating Systems, Data Communications & Networking, Cybersecurity Principles, Software Engineering (SDLC), Object-Oriented Programming, Database Design, Machine Learning
- **Tools & Technologies:** Git, VS Code, LM Studio, Bash, PowerShell, Raspberry Pi, Windows Driver Toolkit

Research & Publications

AI-Driven Cyberbullying Prevention and Detection *Independent Research Project | Presented at ICAIR 2025 international conference. (Before expansion, presented at Towson Fall Poster Symposium 2025 and Summer 2025 Research Conference.)*

- Researched and designed a framework to prevent and detect cyberbullying using AI and Machine Learning.
- Analyzed the technical and ethical issues in cyberbullying, including a stakeholder analysis of victims, perpetrators, and platforms.
- Proposed a solution involving AI-driven Natural Language Processing (NLP) for proactive content filtering, behavioral monitoring, and real-time pattern recognition in media.

In-Progress Research: AI Chatbots and Adolescent Mental Health

- Investigating the potential link between AI-driven parasocial relationships and teen mental health crises, including suicide.

- Analyzing the technical and ethical failures that can lead to harmful outcomes and developing a framework of technical recommendations based on Anticipatory Ethics.

Key Academic Projects

ReelVibes: Mood-Based Movie & Show Recommender (COSC 412: Software Engineering)

- Contributed to a team-built MERN (MongoDB, Express.js, React, Node.js) web application that generates movie and show recommendations based on mood.
- Owned the backend development, designing the MongoDB database schema and building RESTful APIs with Node.js and Express.js to handle all data operations.
- Implemented the complete user authentication system, including secure signup, login, and session persistence.

Kernel-Level Human Interface Device Filter Driver (COSC 439: Operating Systems)

- Designed and built a custom keyboard shortcut application in C for Linux environments, engineered to operate at a system (root) level by intercepting raw keyboard inputs.
- Ported the application to Windows, utilizing the Windows Driver Toolkit (WDK) to create a kernel-mode driver for handling low-level system I/O.
- This project demonstrates a strong understanding of OS event handling, I/O, and cross-platform, driver-level development.

Quadruped "Crawler" Robot (Freshman Year Personal Project)

- Designed, built, and programmed a 4-legged walking robot from scratch.
- Utilized a Raspberry Pi as the central controller to manage all logic and movement.
- Programmed custom motor controls in Python to synchronize leg movements, enabling the robot to crawl and navigate.

Professional Experience

Library Aide / IT Support | **Towson High School**, Towson, MD *Aug 2021 – Jun 2022*

- Served as the primary technical support aid for the school library, troubleshooting Windows devices, classroom projectors, and other hardware.

- Diagnosed and resolved software and network connectivity issues on school-owned devices.
- Developed creative workarounds to implement fixes and solutions on devices lacking administrator privileges, ensuring minimal disruption for students and faculty.