

# Gavin Caulfield

845-793-4757 • gavincaulfield@gmail.com • linkedin.com/in/gavincaulfield • github.com/gavincaul

## EDUCATION

University of Delaware, Newark, DE

September 2021 - Expected May 2025

**Honors Bachelor of Science in Computer Science; Cybersecurity; Minor in Dance**

Overall GPA: **3.8**; Major GPA: **3.9**, Dean List Recipient: **7 semesters**

Recipient of the **Hatem M. Khalil Memorial Award** – College of Engineering Recognition of Academic Honors and Achievements

## SKILLS

**Languages:** Python, Java, TypeScript/JavaScript, C/C++, C#, R, x86, HTML/CSS, SQL

**Software Development and Tools:** Agile, Git/Hub/Lab, VR/AR Development, Unity 3D/2D, React, Linux/Unix, Oracle/MongoDB

**Additional Skills:** Clinical Research, Creative/Report Writing, Final Cut Pro, Adobe Photoshop, Visual Studio/Code

## RELATED EXPERIENCE

University of Delaware HCI Lab, Newark, DE

June 2023 - Current

**Research Assistant**

- Provide essential support to ongoing research projects through project development and management.
- Design and execute experiments and studies within the lab.
- Conduct comprehensive literature reviews and meticulous data analysis.
- .NET Framework 6.0 and C# development for REST/API development.

University of Delaware Computer and Information Science Department, Newark, DE

October 2023 - Current

**Computing Promotions Officer // HenHacks Volunteer Admin**

- Work closely with university department heads to organize and manage student-surrounded computer science events.
- Plan and coordinate volunteers and responsibilities for UD's 2025 Hackathon HenHacks

Berkeley Technology Services, Wilmington, DE

May 2024 - November 2024

**Associate Command Center Analyst**

- Troubleshooted and resolved network-related incidents.
- Monitored network alerts and partnered with Senior Engineers to resolve issues and/or develop new alerts.
- Participated in firm-wide projects with BTS' Information Security team such as enhancing security for network validation solutions, identity service management, intrusion/virus detection, and more.

## PROJECT EXPERIENCE

**HoloFlash (on GitHub)**

March 2024

- A Python Flask server on a Debian VM integrates MongoDB Atlas and Google Cloud services like Vision API and Gemini.
- Accompanied by a React frontend with user authentication, file uploads, and flashcard retrieval. Notably, it features Microsoft HoloLens 2 integration for augmented reality learning experiences.
- **Tools:** Python, MongoDB Atlas, Google Cloud (Vision API, Speech-to-Text API, Gemini), React, Microsoft HoloLens 2
- **Winner of "Best Use of AI in Education" at University of Delaware's Hackathon "HenHacks 2024"**

**Towards Anatomy Education with Generative AI-based Virtual Assistants...**

Summer - Fall 2023

- Enhanced anatomical education through a VR-based questionnaire.
- Research and pilot tests showcase a noticeable increase in educational retention and motivation.
- **Tools:** Unity, VR/AR, ChatGPT API/LLMs, Vive Index and Hololens, Azure SDKs, Visual Studio, C#, .NET Framework
- **Won "Honorable Mention" at the AIxVR 2024 Conference**

**Enhanced Physical Rehabilitation: Optimized Balance Training Through Augmented Reality**

Summer 2023

- Created and compared virtual and augmented reality-based balance training.
- Led pilot test to discover greater balance rehabilitation within augmented reality.
- **Tools:** Unity 3D, VR/AR, Microsoft Azure, Hololens, R/RStudio, Visual Studio, C#, .NET Framework

**iMessage to Spotify Scraper (on GitHub)**

Winter 2022/2023

- Scrapes songs sent through iMessage and add them to a Spotify playlist. Additionally, it uploads every song to a spreadsheet.
- **Tools:** Python, Spotify API, Google Sheets API, Beautiful Soup

## ESSENTIAL COURSEWORK

- **Database Systems (Masters Program)** - SQL, Oracle, .NET Framework/C#, Visual Studio, REST APIs
- **Operating Systems** - Memory management, C, C++, x86, deadlock prevention programming, multi-threading
- **Computer Networks** - Congestion control, routing, de/multiplexing, Wireshark, TCP/UDP programming
- **Statistical Methods** - Descriptive statistics, graphical displays, normal distribution, hypothesis testing, ANOVA, R/Studio
- **Software Engineering** - Team programming, graphical user interfaces, version control, Agile, React, JS/TS, CSS, frontend
- **Network Security** - Wireshark, IP scanning, pen. testing, SYN Flooding, side-jacking, and injection attack prevention
- **Parallel Programming** - Multithreaded programming, OpenMP, MPI, GPU programming, and optimization techniques.
- **System Hardening and Protection** - Linux hardening, security configurations, account control, defect management.