# Jack Sangl

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## EDUCATION

**Penn State Erie, the Behrend College**                                                           **Erie, Pennsylvania**

*B.S. in Computer Engineering*                                                               *Expected Graduation: May 2028*

- **GPA:** 3.90
- **Concentrations:** Applied Mathematics and Computer Programming
- **Related Coursework:** Fundamentals of C++ Programming, Integral Calculus, Harvard's CS50, Discrete Mathematics for Computer Science

## PROJECTS

**Flask-Based Stock Management System (Python, SQLite3, Flask)**

- Designed and implemented a full-stack stock trading web application using Flask, SQLite, and Bootstrap, enabling users to register, log in, and securely manage accounts with hashed passwords.
- Developed core functionalities, including buy/sell transactions, user-specific financial tracking, and ensuring secure data handling with SQL and Flask sessions.
- Built dynamic front-end templates with Jinja2 and responsive Bootstrap UI.

**Image Processing Application (C)**

- Developed a command line application to apply image processing filters (blur, reflection, grayscale, and edge detection) to BMP image files.
- Implemented algorithms to manipulate and process images.
- Strengthened low-level programming skills, including memory management and pixel manipulation.

**Full-Stack Website (Typescript, React, Supabase)**

- Developed a modern real-estate showcasing website for the company PrimeErieRentals using React and TypeScript with a responsive, user-friendly UI
- Integrated Supabase as the backend service for real-time database, authentication, and storage
- Built custom serverless APIs with Vercel functions and implemented transactional emails via Resend

## CERTIFICATIONS

**NVIDIA AI Deep Learning Certification**

- Acquired hands-on experience with deep learning frameworks, including PyTorch, for building, training, and deploying neural networks.
- Designed and optimized models for tasks such as image classification, object detection, and natural language processing using GPU-accelerated computing.

**CS50: Introduction to Computer Science – Harvard University (edX)**

- Gained proficiency in C programming, including memory management, pointers, and data structures like arrays and linked lists.
- Studied algorithms (searching, sorting) and concepts like time complexity and optimization. Built full-stack web applications using Flask, SQL, HTML, CSS, and JavaScript.
- Explored Python programming and introductory AI concepts, including heuristic search and game design. Learned the fundamentals of cybersecurity, covering encryption and secure software design.

## SKILLS

**Languages:** C, C++, Python, JavaScript, HTML/CSS, SQLite3, TypeScript
**Technologies:** Git, VS Code, Excel, Ollama, Resend, Vercel, Supabase, Node.js
**Frameworks:** Flask, Bootstrap, Django, React, NodeJS

## ACTIVITIES AND LEADERSHIP

**Computer Engineering Club**                                          **Erie, Pennsylvania**
*Active Member*                                                  *August 2024 – Present*
- *I joined as a freshman to develop skills in programming, collaborate with peers on tech projects, and participate in hackathons.*

**Future Business Leaders of America**                                 **Erie, Pennsylvania**
*State Qualifier*                                                *Fall 2023- June 2024*
- *Qualified for the Pennsylvania FBLA State Competition by demonstrating leadership skills and strategic thinking in the Organizational Leadership category.*