EMMANUEL ASSUMANG

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EDUCATION

Colby College - Waterville, ME, USA **May 2025**
Major: B.A. in Computer Science
Honors: Presidential Scholar
Relevant Coursework: Object-Oriented Programming and Data Structures (Java), Entrepreneurial Software Engineering, Advanced Databases, Computer Game Design, Programming Languages, Computer Architecture and Organization, Computational Modeling and Simulation, Data Analysis and Visualization, Linear Algebra, Software Engineering, Analysis of Algorithms.

SKILLS AND INTERESTS

- **Programming languages:** Python, Java, JavaScript, Typescript, R, C, Golang, MATLAB
- **Technologies:** React, Node.js, HTML 5/ CSS 3/Bootstrap, REST, Flask, SQL, Pandas, Anaconda, Git, JUnit
- **Interests:** FullStack Development, Backend and Infrastructure, Machine Learning, Mobile Dev.

EXPERIENCE

Microsoft Corporation, *Software Engineer Intern* | AI Frameworks Team **May 2024- Aug 2024**

- Optimized LLaMA-2/3 models via function rewrites for complex layers, reducing inference time by 70-95% through ONNX integration and enhanced deployment efficiency.
- Engineered advanced ONNX IR transformations for graph initializers, decreasing model memory footprint by 25% while maintaining accuracy during production.
- Implemented critical weight operations including MatMul transposing and layer normalization fusion, improving runtime performance by 40% for enterprise-scale AI applications.

Microsoft Corporation, *Software Engineer Intern* | AI Frameworks Team **May 2023- Aug 2023**

- Developed PyTorch/Azure DevOps monitoring tool detecting regressions 40% faster, improving optimization cycles by 25%.
- Benchmarked 8 BERT models for latency/accuracy, reducing inference time by 35% while maintaining 98% accuracy.
- Integrated NSGA-II, QMC, and GRID search algorithms, accelerating hyperparameter optimization by 15% and saving $1-3K monthly.

Microsoft Corporation, *Explorer Intern* | AI Platform. **May 2022-Aug 2022**

- Led PM/SWE roles in 3-person team, creating LLM workspace navigation tool that increased accessibility by 40% for 500+ users.
- Built VS Code extension translating natural language to 30+ commands with 95% accuracy, boosting workflow efficiency by 65%.
- Developed ML model training automation that reduced training time by 70% and increased throughput 3x while maintaining 99.2% accuracy.
- Expanded system functionality to map 300+ commands.

PROJECTS

Athlete Management System

- Led a 5-person team to build and deploy a comprehensive Athlete Management System for Colby Athletics using Heroku.
- Created a one-stop portal for real-time athlete readiness tracking using Flask and fetched data from wearables using REST API.
- Developed an injury prediction model for 775 varsity athletes using historical data, enhancing strategy and team performance.

Chaos Dungeon Game

- Built a fully functional single-player interactive adventure pc game using Pygame
- Pioneered essential character class foundations and crafted an intuitive UI for a seamless gaming experience.
- ness and difficulty enhancing player engagement and strategy.

YouTube Video Filter |

- Built a fully functional web application that enables users to search for videos on YouTube using filters
- Implemented search algorithms using Python and fetched data from an SQL relational database
- Tested and deployed on Azure and currently has 50 active users

LEADERSHIP AND PROFESSIONAL DEVELOPMENT

Colby College, *Community Advisor* **Aug 2022 - Sept 2024**

- Served as the vital bridge between students and housing administration, facilitating community-building activities, addressing housing concerns, and cultivating a positive and educational living environment.

Colby College, *Teaching Assistant* | *Computational Thinking* **Sept 2022 - Dec 2023**

- Assist students in mastering python programming concepts, resolving coding issues, and completing projects.

WJHS Coding Club, *Mentor & Tutor* **Sept 2021 - May 2025**

- Helped develop a Python Turtle and Finch Robot coding curriculum to 15 middle school students.
- Facilitated hands-on computer science projects, introducing core concepts to a young audience.