Subhasri Vijay

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EDUCATION

JOHNS HOPKINS UNIVERSITY, Baltimore, Maryland

Master of Science in Engineering: Computer Science **Expected December 2025**

Bachelor of Science: Computer Science; Minors: Computational Medicine, Entrepreneurship and Management **Graduated May 2025**

Relevant Coursework: Data Structures(Java), Computer System Fundamentals(C, C++), Introduction to Algorithms, Machine Learning: Deep Learning, Artificial Intelligence, Computational Genomics: Sequencing, Sketching and Indexing, Full Stack: Java Script, Databases, Human Computer Interaction, Computer Innovation and Entrepreneurship, Computer Vision, Machine Intelligence, Computing the Transcriptome

SPECIALIZED SKILLS

- **Software Skills**: Python Programming, RDMS, Java Programming, C Programming, MATLAB, R, Object-Oriented Design, UX/UI Design, Type Script, React, Java Script, Git, Backend, Front-end, SQL, Linux, PyTorch, TensorFlow, HTML, Figma
- **Special skills**: Design Thinking, Critical Thinking, Communication, Team Player, Problem Solving

PROJECTS AND EXPERIENCE

Cataract Research Assistant, Wilmer Eye Institute January 2022-Present

- Created and analyzed six different ground-truths based on ratings from six expert surgeons to test the accuracy, sensitivity, specificity, and precision of the algorithms for the ' Can AI accurately answer: "Who is the expert surgeon?"' project. Presented findings with Team at AUPO 2024.
- Processed and curated raw 30+ surgical videos in collaboration with team members to create comprehensive datasets for AI analysis and model training.
- Applied multiple ML models, encoders, decoders and metrics (accuracy, sensitivity, specificity, AUC, confusion matrix) to evaluate surgical skill, contributing to advancements in ML surgical evaluation.

RescueReady, Innovation Lead January 2025-Present

- Developed an AI-powered EMT training platform that simulates high-pressure emergency scenarios to enhance situational awareness and clinical decision-making.
- Built a full-stack application using React, TypeScript, and SQLite, incorporating generative AI for realistic, protocol-aligned scenarios in collaboration with EMTs and healthcare professionals.

IMAZER, Self-driven July 2024-July2024

- Designed and developed a Python-based image resizing application with a Graphical User Interface (GUI) for intuitive user interaction and seamless image resizing. Integrated multiple Python packages and libraries to support resizing images in various formats, ensuring high performance and versatility.
- Incorporated error-handling and user-centered design principles with efficient algorithms to provide reliable performance and a streamlined, intuitive experience for users resizing images across various formats.

CAREATHON, Self-driven July 2024-July2024

- Developed 'CAREATHON', an accessibility tool using Python, enabling speech-to-text, text-to-speech, and translation functionalities to assist individuals with speech and hearing impairments. Leveraged advanced Python libraries for speech and language processing, significantly enhancing communication capabilities for users.
- This contributes to a healthcare initiative by creating a tool that allows people with speech and hearing disabilities to express their thoughts and engage in conversations effectively.

POSTERS AND PUBLICATIONS

- Poster titled "**Can AI accurately answer:" Who is the expert surgeon?"** at AUPO 2024.
- Poster titled "**Surgical Skill Assessment of Cataract Videos**" at ISBI 2025.
- Paper titled "**A Vision Foundation Model for Cataract Surgery Using Joint-Embedding Predictive Architecture**" at MIDL 2025.

TEACHING EXPERIENCE

Head Teaching Assistant, Data Structures: EN.601.226. February 2024-Present

- Guided students in debugging complex programming tasks and simplified Data Structures concepts into accessible explanations, fostering better understanding, problem-solving, and technical communication skills.
- Conducted weekly office hours, providing hands-on assistance and promoting student engagement through practical learning experiences.
- Graded over 100 project submissions and 200 exam submissions while conducting 50+ office hours, ensuring fair grading and collaborating with faculty to create an inclusive and effective learning environment.

INVOLVEMENT

National Liaison for JHU Hindu Student Council April 2022-April 2024

- Represented JHU at the Leadership Summit 2022 in NYC, organizing and coordinating technical aspects for events, enhancing community engagement.

Member of Women in CS, ACM, SWE and Amazon's Women of the World August 2021-Present

- Participated in career events, webinars, and coding circles to network, develop technical skills, and promote diversity and inclusion within the tech community.

President for Software Engineering Club(SWEC) January 2025-Present

- Directed club activities to enhance member engagement and foster skill development in software engineering through workshops and guest speaker sessions, discussion on different aspects of software engineering and its applications.

CO-CURRICULAR ACTIVITIES

- Professionally trained crafters in advanced punch craft, stamping layering techniques and experienced in decorating, customized gift pieces for different occasions.
- Active in roller skating, badminton, tennis, singing in Indian languages, and natural landscape photography.

HONORS AND AWARDS

- Dean's List for 7 semesters at Johns Hopkins University for maintaining a GPA above 3.5. 2024
- Awarded the Masson Fellowship for 2024 by the Computer Science department for Research. 2025