SAKSH MENON

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EDUCATION

Bachelor of Science, Computer Science Expected Graduation: May 2026
University of Cincinnati, Cincinnati, OH – 3.85 GPA
Honors: National Society of Leadership and Success Honor Society, CEAS International Outreach Scholarship, and UC Global Scholarship
Relevant Coursework: Deep Learning, Applied AI & Machine Learning, Data Structures, Discrete Mathematics, Statistics & Probability, Linear Algebra

PROFESSIONAL EXPERIENCE

Machine Learning Intern – Bioinformatics August 2024 – December 2024
Cincinnati Children's Hospital, Cincinnati, OH

- Designed a user-friendly, time and resource efficient tool for biologists to discover and study similarities between 2 or more organisms by leveraging ProtT5 based Protein Language Model embeddings, vector cosine similarities, and 4 additional search algorithms
- Assembled a new metric to aid in visualizing confidence in generated results post preprocessing and additional transformations
- Explored machine learning algorithms to generate predictions on fatal and non-fatal amino acid mutations with SVC, XGBoost, Ridge, and Lasso based models by evaluating vector cosine similarities between wild and mutated protein sequences

Research Intern – Fault Hunter Software Development January 2024 – April 2024
University of Cincinnati, Cincinnati, OH

- Enhanced and tested an application framework specifically tailored to identify and mitigate 7 vulnerabilities across high- and low-level software languages and assisted in expanding fault hunting capabilities to exceed current benchmarks
- Pioneered an approach to integrate machine learning techniques, enhancing efficiency and effectiveness of vulnerability detection by replicating methodologies outlined in 6 academic research papers, demonstrating adaptability and a strong grasp of theoretical concepts
- Incorporated constructive criticism via team meetings to iteratively modify and experiment with novel approaches, fostering a culture of continuous improvement and innovation

Teaching Assistant – Data Structures August 2023 – December 2023
University of Cincinnati, Cincinnati, OH

- Utilized hands-on assistance techniques to help over 50 students troubleshoot and debug code related to data structures and fundamental C++ concepts via one-on-one interactions with students, identifying issues in code, leading peers towards effective solutions
- Provided valuable support to professors by participating in administrative tasks and other aspects to ensure smooth operation
- Played a crucial role in bridging communication gaps between professors and diverse student bodies by ensuring students from various backgrounds and experiences can effectively engage with course material, creating an inclusive learning environment

Student Co-op – Software Development January 2023 – April 2023
Cincinnati Children's Hospital, Cincinnati, OH

- Optimized custom data analysis pipelines to extract meaningful insights from multiple files containing 500,000 readings on fragile X syndrome patient eye tracking data on distributed systems, contributing to success in multiple research projects for a billion-dollar firm
- Spearheaded a significant enhancement in team productivity by implementing structured, low overhead, and reusable parallel computing techniques in python and MATLAB with REDCap databases resulting in reductions of more than 50% in major computation times
- Engaged in open and constructive discussions with cross functional team members as an engineering intern, participating in brainstorming sessions to collectively arrive at well-informed decisions

PROJECTS

Hackathon Projects July 2024 – November 2024
HTML, JavaScript, Python, PyTorch, YOLO, CV, Jupyter, HTML, CSS

- Conceptualized and designed Clarity – a YOLOv8 model-based object detection system, trained on Freiburg Groceries Dataset, designed to assist visually impaired users in their daily activities, such as grocery stores, optimized with a centering algorithm via bounding box coordinates
- Developed Red Giraffe – a holistic search bar browser extension for optimizing search engine results with NLP and cloud-based computing

Deep Learning Applications August 2023 – December 2023
Python, PyTorch, Jupyter, TensorFlow

- Implemented a state-of-the-art CNN and ResNet50 neural network systems engineered to classify lung X-ray images, facilitating the precise identification of COVID-19 infection alongside normal cases, coded a translator using pytorch based GRU models, and built a U-net model for the purpose of retina image masking

LEADERSHIP & EXTRACURRICULARS

Team Lead – Digital Philanthropy Center August 2022 – Present
University of Cincinnati Foundation, Cincinnati, OH

- Appointed as a dedicated ambassador, played a pivotal role in promoting and highlighting university achievements, fostering positive relationships with stakeholders and external partners by demonstrating exceptional communication and interpersonal skills
- Exhibited a high level of professionalism and diplomacy while addressing questions, concerns, and inquiries from over 100 donors and other colleagues, ensuring a positive and rewarding engagement experience
- Propelled university-wide financial growth by assisting in securing a remarkable sum of over a million dollars in funds

Leader – WACE Global Challenge July 2022 – August 2022
Faversham & Villages Refugee and Solidarity Group, England

- Assisting an organization working towards justice and relief for war, oppression, and climate refugees by formulating CRM solutions to improve on youth outreach, allocation of funds, and website development
- Showcased a leadership approach that encouraged participation, involvement, and mutual respect among team members

SKILLS

Software Languages: Python, C, C++, Java, Assembly, JavaScript, LabVIEW, MATLAB, SQL, Azure, AWS, React
Platforms: Windows, MacOS, Linux