Skanda Vasishta

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Education

University of California, Santa Barbara — Santa Barbara, CA
BS Computer Science, GPA: 3.88 — Sep 2022 - December 2025
Relevant Courses
Object-Oriented Design, Data Structures and Algorithms, Computer Architecture, Artificial Intelligence
Affiliations on Campus
Data Science at UCSB, CodersSB, Engineering Honors, Engineering Dean's Honors List

Experience

Channel Islands National Marine Sanctuary — Isla Vista, CA
Full Stack Web Development Intern — June 2024 - Present

- Developing end-to-end full-stack project utilizing PHP for backend systems and API development, JavaScript for interactive frontend components, and MySQL for efficient data management, enhancing system performance and user experience.
- Integrated REST APIs to develop custom plugins and enhance site functionality, enabling efficient data exchange and interaction between client-side applications and the backend. Designed and implemented responsive, Bootstrap-enabled user interface for cross-device compatibility.
- Designing and implementing robust data pipeline to process and analyze oceanic and atmospheric information, translating complex scientific data into accessible, user-friendly formats.

UCSB ArchLab — Isla Vista, CA
Undergraduate Student Researcher — January 2024 - Present

- Utilized Python circuit modeling libraries to develop a graph algorithm-based approach for identifying standard library modules within netlists, achieving a mean simulation speedup of 900% and a maximum speedup of 3500%.
- Conducted experiments and created benchmarks to test algorithm's accuracy and speedup. Automated data collection and analysis through Python, facilitating visualization and modeling.

Projects

Touch Grass (May 2023) *Node.js, React Native, Google Firebase, Google Maps API, Express*
https://devpost.com/software/touchgrass
Developed social media platform for college students. Implemented scalable backend with Node.js and Express, cross-platform mobile interface with React Native, and real-time data synchronization with Firebase. Integrated Google Maps API for location-based features. Won award for "Best Use of Google Cloud" at SB Hacks IX.

Classify (Jan 2024) *Node.js, React Native, Google Cloud NLP API, BeautifulSoup, Python, Express, MongoDB* Developed an edtech application for ranking professors and classes based on student preferences. Built the frontend with React Native and the backend with Node.js and Express, using MongoDB for data management. Scraped data with Python and BeautifulSoup, and integrated Google Cloud Natural Language Processing API for sentiment analysis to generate detailed rankings.

Publications

Mycelium: Module Finding with Functional Netlist Representation *UCSB ArchLab; In review, June 2024*
A novel algorithmic technique for reverse engineering hardware designs. Employs a functional representation and a bottom-up matching algorithm to efficiently identify and extract standard library modules from large designs. Addresses the scalability issues of existing methods, improving simulation speed and accuracy.

Skills

Languages: Python, C++, Java, JavaScript, HTML, CSS, PHP, Bash, C#
Frameworks/Libraries: React Native, Express, Django, Bootstrap, jQuery, Numpy, Scipy, Pandas, MatPlotLib, Scikit-Learn, TensorFlow, Pytorch, Linux, .NET, Angular
Other Technologies: Git, GitHub, AWS, Azure, PostgreSQL, MySQL, MongoDB, BeautifulSoup

Licenses and Certifications

Machine Learning Specialization *June 2024; DeepLearning.AI, Stanford University, Coursera*
Proficiency in machine learning techniques including regression, classification, neural networks, unsupervised learning, recommender systems, and reinforcement learning.