Zayyan Naveed

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EDUCATION

Yale University   **Aug 2021 – May 2025**
Bachelor of Science in Computer Science   *New Haven, CT*
- GPA: 3.98/4.00, Certificate in Chinese
- Relevant Coursework: Data Structures, Algorithms, Systems Programming, Artificial Intelligence, Object-Oriented Programming, Full Stack Web Programming, Machine Learning, Deep Learning, Computer Vision, Database Systems
- Activities: Yale Computer Society, Club Cricket, Code Haven, Yale Machine Learning, International Relations Association

EXPERIENCE

Structify   **Jan 2024 – Feb 2024**
Software Engineer Intern   Brooklyn, NY
- Enhanced API analysis by developing dynamic sorting algorithms using Rust and Candle, strategically fine-tuning LLMs to improve information retrieval efficiency by 30%.
- Accelerated production sorting process, achieving sorting of 10 million points in under 10 min with minimal accuracy loss.
- Incorporated a user feedback loop to fine-tune LLM for tailored use cases, enhancing system responsiveness to user needs.

Yale University   **Jan 2023 – December 2023**
Undergraduate Learning Assistant   New Haven, CT
- Served as a teaching assistant for 'Introduction to Computer Science' course (120+ students).
- Mentored students through weekly one-on-one office hours to help debug homework assignments in Racket.
- Led monthly review sessions to explain topics spanning Functional Programming, Turing Machines, Boolean Algebra, and Computer Architecture.

ISB Global   **Jun 2023 – Aug 2023**
Software Engineer Intern   London, United Kingdom
- Collaborated with the IoT team to design and implement a Smart Bins system with ultrasonic sensors and Node MCU microcontrollers, achieving a 20% reduction in littering through real-time data acquisition.
- Established seamless integration of Smart Bins with cloud infrastructure using AWS IoT services.
- Integrated HERE Maps API in Outsystems through JavaScript, facilitating real-time routing, bin location and status updates on an intuitive map interface; enhanced operational efficiency by 15% and elevated user experience.

Internet Security and Privacy Lab   **Jan 2021 – Aug 2021**
Research Assistant   Lahore, Pakistan
- Coordinated on research investigatating the impact of moderator-led interventions on Reddit communities.
- Conducted data analytics on r/reclassified, curating a comprehensive dataset on administrative interventions in Subreddits.
- Computed Rank-Biased Overlap scores, providing key insights into patterns between active and banned Subreddits.

PROJECTS

- **Sports Image Generation Model:** Developed a robust pipeline for generating accurate badminton gameplay images using ControlNet with OpenPose extension; utilized LoRA finetuning, and automatic layout information generation to ensure accurate positional relationships between players and equipment – Python, Stable Diffusion, OpenPose (**May 2024**).
- **Hole in the Wall**: Programmed a motion sensor game to improve mental health and wellness of Yale College students, integrated Microsoft Azure Kinect Data – Azure Kinect DK, JavaScript, Phaser **(May 2023)**.
- **Yost and Found**: Teamed with 4 students to develop Yale's premier Lost and Found application; integrated Yale CAS API for user authentication and Yalies API for data access – Python, Flask **(Apr 2023).**

SKILLS

- **Languages:** Advanced: Python; Proficient: C/C++, JavaScript, HTML/CSS, SQL; Familiar: Java, Rust, PostgreSQL
- **Frameworks and Libraries:** React, Redux, Node.js, Flask, PyTorch, Candle, Selenium
- **Tools and Technologies:** GitHub, Agile, AWS, OutSystems, Unix, Linux, Visual Studio, Jira, Jenkins