PARTH KSHIRSAGAR

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Education

The Pennsylvania State University   **Aug. 2022 – May 2026**
Bachelor of Science in Computer Science — Minor in Entrepreneurship and Innovation — CGPA: 3.59   *University Park, PA*

Relevant Coursework

- Data Structures
- Embedded Systems
- Algorithms Analysis
- Numerical Computations
- Deep Learning
- Digital Design
- Systems Programming
- Computer Architecture

Experience

Technocrats   **Jan 2024 – July 2024**
Cofounder

- Spearheaded the development and integration of advanced AI technologies such as content generation that redefine industry standards and drive business growth.
- Provided strategic leadership of the technology vision, ensuring AI solutions are innovative, scalable, and aligned with business objectives.
- Used Python and React to integrate AI solutions and host user-facing products, delivering seamless and responsive applications that drive user engagement and business growth.
- Implemented REST APIs and other API integrations to seamlessly connect AI models with external data sources and third-party services, enhancing the scalability and interoperability of our solutions.

PSU Wind Energy Club   **Aug 2022 – May 2023**
Software Development Member - Collegiate Wind Competition 2023   *University Park, PA*

- Developed software for the Collegiate Wind Competition (CWC) using C/C++, securing second place at the national level.
- Conducted sensor testing and contributed to the development of speed control software using Arduino Uno and C/C++.

Fortius Mine Chem Private Limited   **Jan 2021 – April 2021**
Computer Science Intern   *Gujarat, India*

- Conducted analysis of company's redundancies and inefficiencies of the company's MIS system.
- Collaborated with the team to propose effective solutions aimed at addressing the identified issues.
- Played an integral role in formulating strategic recommendations to optimize the performance and functionality of the MIS.

Projects

Client-Server Chat Application | *C, Linux, GTK*   **July 2024**

- Developed a real-time chat application using C and GTK 4 in a Linux environment, focusing on cross-platform compatibility and performance.
- Implemented socket programming for TCP/IP connections to establish and manage communication between a central server and multiple clients.
- Designed and developed the user interface with GTK 4, emphasizing usability, responsiveness, and user experience.
- Managed client-server interactions, including message broadcasting, concurrent client handling, and network performance optimization.

Developed Predictive Models Using Python | *ML, Python, NumPy,*   **June 2024**

- Developed and implemented machine learning models for classification and regression tasks, utilizing advanced mathematical concepts such as linear algebra, calculus, and statistics.
- Leveraged libraries like NumPy, Pandas, and Scikit-learn for data preprocessing, feature engineering, model training, and performance evaluation.
- Applied model optimization techniques including regularization, gradient descent, and cross-validation, enhancing accuracy and performance across datasets.

The Moth Challenge | *Next.js, JavaScript, React, Figma*   **April 2024**
- **Achievement:** Won first place in the cybersecurity track at Bitcamp hosted by the University of Maryland from April 19 to April 21, 2024. .
- **Description:** Inspired by Cicada 3301 and CIA cybersecurity tests, this project involved creating gamified puzzles to introduce students to cybersecurity.
- **Development:** Utilized React for front-end development and JavaScript for core logic and puzzles.
- **Skills:** Enhanced technical skills in cryptography, steganography, web security, JavaScript, and React.

PathFinder | *Next.js, TypeScript, React, AI*   **Oct 2024**
- **Achievement:** Developed a dual-purpose AI chatbot for Penn State Smeal College of Business and ICDS, receiving positive feedback for its accuracy and user-friendliness.
- **Description:** Created an AI-powered platform combining career guidance with RAG (Retrieval-Augmented Generation) capabilities for accurate document summarization and career advice.
- **Development:** Built using Next.js for frontend, Langchain for AI backend, implementing two distinct data pipelines for career guidance and document processing.
- **Skills:** Enhanced expertise in AI systems development, RAG implementation, Next.js, Langchain, and user-centered design principles.

VR Circuit Simulator | *Unity, VR, Meta Quest, Python, Pygame*   **Nov 2024**
- **Achievement:** Created an immersive VR application for building and testing electronic circuits, designed with Meta Quest compatibility to engage users in interactive circuit learning.
- **Description:** Developed a VR Circuit Simulator featuring realistic breadboards, interactive components, and real-time circuit simulation, along with educational tutorials for learners at various skill levels.
- **Supporting Projects:** Integrated Circuit Generator for natural language command generation and 2D Circuit Simulator for rapid prototyping and testing in Pygame.
- **Skills:** Enhanced expertise in Unity, VR development, Pygame, natural language processing, and interactive educational design.

Technical Skills

Languages: Python, Java, C, C++, HTML/CSS, JavaScript, SQL, React, TypeScript
Developer Tools: VS Code, Vim, Unreal Engine, Android Studio, Vivado, MATLAB, Vercel
Technologies/Frameworks: Linux, Next.js, GitHub, , WordPress, Tailwinds, Huggingfaces, Langchain