SAWAN PANDITA

331-245-8332 | sbp5882@psu.edu | linkedin.com/in/sawanpandita18 | github.com/sawan18

EDUCATION

Pennsylvania State University, State College, PA **May 2027(Expected)**
Bachelor of Engineering in Computer Science & Computational Data Science
Minor in *Computational Statistics* – Eberly College of Science
Coursework: OOP With Web Applications, Systems Programming, Data Structures and Algorithms, Data Management for Data Sciences, Artificial Intelligence, Advanced Statistics, Machine Learning

INDUSTRY EXPERIENCE

Pennsylvania State University
Research Assistant | State College, PA **Aug 2024 – Present**
Working under Dr.Kaamran Raahemifar

- **Developed and optimized REST APIs** using **Python** and **FastAPI**, improving real-time financial data access for **10,000 users by 30%**.
- Engineered **low-latency pipelines** with **WebSockets** and **Redis caching**, reducing API response times to under **200 milliseconds** and enhancing institutional decision-making.
- Integrated **Charles Schwab APIs** to replace legacy **TD Ameritrade** systems, leveraging **OAuth 2.0** for secure authentication, boosting system reliability by **25%**.
- Built advanced financial data visualizations using **Plotly** and **Matplotlib**, enabling **real-time stock market insights** and increasing data delivery speed for **500+ quantitative analysts**.
- Implemented **NLP sentiment analysis** with **spaCy** on real-time financial news feeds (**Bloomberg, News API**), improving stock predictions and enhancing the decision-making process.
- Secured APIs with industry-standard practices, including **SSL/TLS**, while conducting **unit and integration testing** using **pytest** and automated workflows in **Postman**.
- Deployed APIs on **AWS**, incorporating performance monitoring with **Grafana**, ensuring **scalability** and **99% uptime** for high-frequency trading environments.

Radical AI
Artificial Intelligence Engineering Intern | New York, NY **May 2024 – Aug 2024**

- **Developed an AI-powered educational platform** using **Python**, **TensorFlow**, and **PyTorch**, achieving **94% accuracy** in auto-generated quizzes, delivering personalized learning experiences to over **5,000 users**.
- Designed and optimized a document processing pipeline with **PyPDFLoader** and **CharacterTextSplitter**, improving document analysis **efficiency by 35%** for large-scale educational content.
- Integrated **Google Vertex AI** and **Langchain** to enhance topic extraction**, increasing quiz relevance by 50%** and **reducing content preparation time by 40%,** improving educator engagement.
- Scaled content processing to over 1,000 YouTube videos per hour using a **FastAPI** backend, optimized classification algorithms to **85% accuracy**, and **increased platform scalability by 40%**.
- Refined system architecture based on **SOLID** principles and introduced robust logging mechanisms, **reducing code complexity by 30%** and **cutting debugging time by 40%,** improving overall system maintainability.

Edurekha
Data Science Intern | Bangalore, India **May 2023 – Aug 2023**

- Engineered a **Travel Aggregator Model**, processing over **1 million data points** and reducing query time by **40%** using optimized search algorithms and advanced **SQL** queries.
- Developed a **Heart Disease Prediction Model** with **70% accuracy**, analyzing thousands of medical records using Machine Learning techniques in **Python and Scikit-learn**.
- Specialized in **Deep Learning** and **NLP**, utilizing **CNN**, **RNN**, and **LSTM** models enhance text feature extraction by **35%**.
- Executed a **Data Visualization project**, creating 10+ interactive dashboards with **Tableau** and **Seaborn**, boosting insights and **user engagement by 50%**.
- Improved data processing efficiency by 30% through the use of **NumPy**, **Pandas**, and **Matplotlib**, and reduced data retrieval times by **25%** with **advanced SQL Server management**.

PERSONAL PROJECTS:

Kong Posh **Jan. 2023 – March 2023**

- Built a cross-platform app with **Node.js, Express.js, and MongoDB,** implementing **30+ RESTful endpoints** with **<150ms API response times**.
- Developed **"Surprise Me" AI feature** using **Python, scikit-learn, and Flask**, employing collaborative filtering to **increase suggested dish orders by 25%.**
- Implemented **Firebase Authentication**, **OAuth 2.0**, and **AES-256 encryption**, supporting multi-factor and data integrity.
- Integrated **Stripe** for **PCI-DSS** compliant payments and fraud detection, reducing fraudulent transactions by 30%.

SKILLS:

Programming Languages: Python, C, C++, Java, JavaScript, HTML/CSS, TypeScript, Kotlin, Go, R, Angular
Tools + Applications: Seaborn, PyTorch, Git, React, Matplotlib, Scikit-Learn, Pandas, SQL, TensorFlow, NLTK, spaCy, Keras, OpenCV, AWS, Node.js, Docker