SUBHADEEP JANA

Bloomington, IN | (812) 916 3613 | jsubhadeep1999@gmail.com | LinkedIn | GitHub | Portfolio

EDUCATION

Master of Science in Computer Science - Indiana University Bloomington — Aug 2022 - May 2024
Coursework: Software Engineering, Applied Algorithms, Applied Machine Learning, Time Series Analysis, Advanced Database Technologies, Elements of Artificial Intelligence — **GPA: 3.87/4.0**

Bachelor of Technology in Computer Science - GCECT — Aug 2017 - Jul 2021
Coursework: Data Structures, Software Engineering, Operating System, Artificial Intelligence, Database Management Systems, Cryptography and Information Security — **CGPA: 9.07/10.0**

EXPERIENCE

Research Assistant — Feb 2024 - Present
Indiana University — *Bloomington*

- Developed a cognitive experiment in **jsPysch** to store 1K+ test results in **MySQL** database using **Flask APIs**.
- Improved trial accuracies by **35%** by integrating a balanced probe distribution and real-time accuracy feedback for the participants.

Software Engineer — Jan 2021 - Jun 2022
IXXO Lambda Vision — *France (Remote)*

- Developed a **ReactJS** based dashboard capable of detecting key physical features in a car through **computer vision**, and integrated it with an API gateway.
- Engineered a **Flask**-based backend to serve a **YOLOv3** object detection model as a **REST API** and deployed it on **AWS EC2**. Conducted thorough unit and integration testing using **Pytest**, with code coverage of 75%.
- Designed an **AWS Lambda** pipeline on **Python** to automate feature extraction from 80,000+ car images stored in an **AWS S3** bucket and ingest it into a **PostgreSQL** database for model training.
- Improved color detection accuracy by **20%** leveraging image processing techniques in **scikit-image** and **OpenCV**. Collaborated in a cross-functional **Agile** team of 7, ensuring seamless feature integration.

SKILLS

Languages	Python, Java, C++, JavaScript, HTML/CSS, SQL, NoSQL, Bash
Frameworks	Flask, ReactJS, OpenCV, Keras, TensorFlow, Librosa, scikit-learn, Pytest
Databases	MySQL, PostgreSQL, MongoDB
Tools	Git, VS Code, Jupyter Notebook, Eclipse, Postman, PowerBI

PROJECTS

Gadgetry *Django — ReactJS — PostgreSQL*

- Developed a **ReactJS** based full-stack web app for electronic gadget reviews, integrating **Django** as the backend framework connected to a **PostgreSQL** database.
- Utilized **SQLAlchemy** and **pandas** to normalize a 100,000+ product database; and visualization libraries such as **Chart.js**, **Plotly.js**, and **Pychart** to provide visualizations for user review distributions.

PageTurner *ReactJS — TailwindCSS — Sanity — Netlify* — Link

- Led a team of 4 to build an interactive social media platform with **ReactJS** and **MongoDB**, engineering key **CRUD** features like creation and deletion of posts, commenting on others' posts, and user profile search.
- Integrated **Google OAuth** and **Firebase** for seamless user authentication and increased session duration by **50%**, which boosted user experience by **20%**. Deployed the website on **Netlify**.

Music Genre Classification using Machine Learning *Python — Librosa — OpenCV* — Link

- Conducted a comparative analysis of 10+ machine learning models for music genre classification, including regression, tree-based, probabilistic models in **scikit-learn** and neural models in **TensorFlow**.
- Utilized **OpenCV** and **Librosa** to extract 48 spectral features from audio data, achieving a classification accuracy of 90% by implementing hybrid **CNN-RNN** architectures with **BiLSTM**.

CERTIFICATIONS & ACHIEVEMENTS

- **AWS** Solution Architect Associate (CAA-03)
- **Awarded $1500** for developing a **PowerBI** dashboard in *CRNY* data visualization competition.