Nikhil Vijay Yadav

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EDUCATION

Master of Science in Computer Science, Arizona State University — *December 2025*
Coursework: Machine Learning, Cloud Computing, Software Security, Data Mining — **GPA: 4.0/4.0**

Bachelor of Computer Engineering, Savitribai Phule Pune University — *May 2020*
Coursework: Data Structures, Software Engineering, Object Oriented Programming, Database Management — **GPA: 3.7/4.0**

TECHNICAL SKILLS

Languages: Python, Java, JavaScript, C, C++, HTML, CSS, JSON, GraphQL, XML, SQL, PHP, Shell Scripting
Technologies & Frameworks: Spring Boot, REST APIs, Flask, React.js, Node.js, Junit, Mockito, Tensorflow, Scikit-learn, Keras, Pandas
Tools: Postman, AppDynamics, SonarQube, Tableau, Power BI, Jira, Confluence, Kibana, Jenkins, OpenShift, AWS
Database: MySQL, PostgreSQL, MongoDB, Sybase, Oracle
Version Control: Git & GitHub, BitBucket, SourceTree
Proficiencies: SDLC, STLC, SCRUM, Agile, TDD, Backend, Frontend, Unit testing, Test Coverage, Micro-services, CI/CD

WORK EXPERIENCE

Research Aide — *March 2024 – Present*
Arizona State University — Tempe, AZ

- Extracting business data from Crunchbase using **RESTful APIs** and **Python scripts**, employing Pandas and NumPy for data cleaning and validation, ensuring high-quality datasets for analysis across diverse industries.
- Analyzing venture capital investments and trends, deriving insights to illustrate the startup financial landscape, and leveraging **Power BI** to create visualizations communicating strategic investment opportunities and industry benchmarks.

Software Engineer — *May 2022 – December 2023*
Barclays — Pune, India

- Spearheaded the transformation from RAML to OpenAPI Specification (OAS), leading efforts to standardize **API design** and mitigate compatibility issues.
- Engineered over 10 **REST APIs**, leveraging **Java Spring Boot** to enhance integration across platforms and channels, achieving a 500ms SLA, improving Barclays application performance, and impacting over **2 million** active users.
- Played a pivotal role in developing **React-based** user interface components, used by internal teams and in online retail banking applications, leading to a **50%** enhancement in system response time.
- Executed a multithreading approach in processing customer address data, enhancing efficiency in bank accounts and credit card systems, leading to a **40%** reduction in response times and **70%** less manual synchronization effort.
- Implemented Jenkins-based CI/CD pipelines, achieving a 28% reduction in release cycles.
- Engaged stakeholders to prioritize and align requirements with organizational goals, utilizing **Jira** for project management.

Software Engineer — *September 2020 – May 2022*
Tata Consultancy Services — Pune, India

- Led migration of 400+ legacy SQR scripts to **Python** to address performance issues at Westpac Bank, reducing batch and CRON job execution times by **60%** and enabling efficient generation of PDF, CSV, text, and XML reports.
- Revamped and restructured existing shell scripts on a Linux (RHEL) platform to align with new Python scripts, boosting the efficiency and reliability of the Margin Lending Report Generation Application.
- Executed comprehensive Python code reviews and rigorous testing (**SIT**, **UAT**) using Python libraries **Unittest** and **Pytest** to validate client requirements and corner test cases, achieving a **50%** reduction in post-deployment failures.

ACADEMIC PROJECTS

NewsIntel LLM | OpenAI, LLM, Flask, React.js, RESTful APIs, LangChain **[Github]**

- Engineered a semantic search application, facilitating the transformation of news URLs' content into vector representations via word embeddings, stored in a FAISS Index. Utilized OpenAI's API to deliver precise responses to equity research analysts.

ScriptScene | OpenAI, React.js, Node.js, Express.js, MongoDB **[Github]**

- Developed a full-stack MERN clone of Midjourney and DALL-E, utilizing OpenAI's API for robust AI-driven image generation, and added community sharing features for users to view prompts, engage, and download favored creations.

Pneumonia Detection System | Machine Learning, Neural Networks, TensorFlow, Keras, Python **[Github]**

- Developed a ResNet model with TensorFlow and Keras for pneumonia detection, leveraging data augmentation strategies (including resizing, shear, zoom, flip, and brightness adjustment), resulting in a 20% improvement in detection accuracy.

PUBLICATIONS

Twitter Sentiment Analysis Using Machine Learning for Product Evaluation, IEEE, DOI: 10.1109/ICICT48043.2020.9112381