

PARTH PANCHAL

Full Stack Python Developer

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PROFESSIONAL SUMMARY

- Highly proficient and motivated Full Stack Python Developer with 3+ years of experience in Machine Learning and full lifecycle involvement in designing, developing, deploying, and maintaining web applications using Python, FastAPI, Django, Flask.
- Strong understanding of the Software Development Life Cycle (SDLC) with hands-on experience in both Agile and Waterfall methodologies.
- Skilled in developing web-based applications using Next.js, React, HTML, CSS, JavaScript (ES6), Jinja, Bootstrap, Tailwind, Styled Components, jQuery, Ajax, JSON, and XML.
- Experience working with various relational databases such as SQLite, MySQL, and PostgreSQL, and NoSQL databases including MongoDB, and Cassandra.
- Experience working with vector and caching databases such as Pinecone and Redis.
- Proficient in Python development tools and editors including Cursor, Antigravity, Visual Studio Code, PyCharm, Jupyter Notebook and Google Colab.
- Extensive knowledge of Python libraries such as NumPy, Pandas, LangChain, LangGraph, OpenAI, Ollama, Pydantic, Pymongo, asyncPg, SQLAlchemy etc.
- Familiar with ASGI and WSGI architecture servers and cloud deployments.
- Hands-on experience in text analytics, statistical machine learning, and data mining to solve business problems and create data visualizations using Python, and Tableau.
- Skilled in implementing CI/CD pipelines, containerization (e.g., Docker), and Infrastructure as Code (IaC) for efficient and scalable application deployment.
- Proficient with cloud platforms including Google Cloud Platform (GCP) and Amazon Web Services (AWS).
- Experienced in developing and testing RESTful web services using both Node.js and Python for effective remote system communication.
- Strong debugging and troubleshooting skills with the ability to review Python, JavaScript, TypeScript code and run test cases to resolve bugs.
- Well-versed in version control systems such as Git, GitHub, and GitLab.
- Dedicated to delivering high-quality code with a strong emphasis on user experience and performance optimization.

SKILLS

- **Programming Languages:** Python, JavaScript/TypeScript, SQL.
- **AI/ML & Data Engineering:** LangChain, LangGraph, OpenAI API, Ollama, TensorFlow, PyTorch, Keras, NumPy, Pandas, Scikit-learn, Matplotlib, Seaborn, Plotly, Pydantic.
- **Backend & API Development:** FastAPI, Django, Django REST Framework, Flask, RESTful APIs, GraphQL, ASGI/WSGI, async Python (asyncio, asyncpg), SQLAlchemy, Pymongo.
- **Databases & Storage:** PostgreSQL, MySQL, MongoDB, Redis, Cassandra, Pinecone (vector DB), SQLite
- **Frontend & Full-Stack:** Next.js, React, TypeScript, Redux, Tailwind CSS, Styled Components, HTML5, CSS3, JavaScript (ES6+), Bootstrap, Jinja.
- **DevOps & Cloud Infrastructure:** Docker, Kubernetes, AWS (EC2, S3, Lambda, Bedrock, SageMaker), GCP, Azure, CI/CD (GitHub Actions, GitLab CI, Jenkins), Infrastructure as Code, Heroku
- **Version Control & Collaboration:** Git, GitHub, GitLab, JIRA, Trello
- **Testing & Code Quality:** Pytest, Pylint, SonarQube, Selenium, Mockito, JUnit, unittest
- **Development Tools & IDEs:** Visual Studio Code, PyCharm, Jupyter Notebook, Google Colab, Vim, Cursor, Antigravity
- **Methodologies & Best Practices:** Agile, Scrum, Waterfall, SDLC, Responsive Design, Performance Optimization, Security Best Practices, Code Review
- **Other Skills:** Linux, Shell Scripts, JSON, XML, Figma, Splunk

PROJECTS AND CERTIFICATIONS

- **Python with Machine Learning**
Softvan Pvt Ltd | A Sahana System Group Company. 2020
- **Complete Data Science, Machine Learning, DL, NLP Bootcamp**
Udemy ([Certificate Link](#)) 2025

PROFESSIONAL EXPERIENCE

STATE STREET FULL STACK PYTHON DEVELOPER

Toronto, ON, CANADA
2023-2025

- Developed and maintained full-stack web applications using Python, Django, Flask, and JavaScript, ensuring scalable, maintainable, and secure solutions for business-critical systems.
- Implemented responsive, mobile-first UI designs and ensured cross-browser compatibility to deliver optimal user experience across major browsers and devices.
- Delivered high-quality software following Agile/Scrum methodologies with consistent on-time delivery, sprint planning participation, and adherence to coding standards.
- Designed and developed RESTful APIs to integrate web applications with external systems and third-party services, including authentication, authorization, and data exchange.
- Maintained, refactored, and enhanced existing Python applications using Django and Flask frameworks to improve performance, reliability, and codebase maintainability.
- Built efficient ETL pipelines using Python and SQL to extract, transform, and load data from multiple heterogeneous sources into relational databases and data warehouses.
- Troubleshooted and resolved issues in Kubernetes-based environments, ensuring high availability, minimal downtime, and stable application deployments.
- Utilized Python development environments such as Visual Studio Code, Google Colab, and Jupyter Notebook for rapid prototyping, experimentation, and production development.
- Managed and tracked technical issues and incidents by creating and maintaining support tickets in Microsoft Azure-based tracking systems.
- Participated in end-to-end system analysis, design, development, and deployment of web and client/server applications using HTML, Bootstrap, Jinja, CSS, JavaScript, and XML.
- Developed and maintained backend data layers using Microsoft SQL Server, MySQL, and SQLite, including schema design, indexing, and query optimization.
- Designed and developed presentation layers and interactive UI components of web applications using ReactJS for improved usability and responsiveness.
- Optimized SQL queries and database performance for large-scale datasets and complex schemas, reducing query execution time and improving overall system throughput.
- Worked with relational database management systems including MySQL, Microsoft SQL Server, and SQLite for transactional and analytical workloads.
- Conducted unit testing and static code analysis using Pytest and Pylint to ensure code quality, maintainability, and adherence to best practices.
- Implemented CI/CD pipelines using Docker, AWS ECS, and automation tools to enable seamless, repeatable, and scalable deployments across environments.
- Developed and trained machine learning classification models (Logistic Regression, Decision Tree, Random Forest, XGBoost) using PySpark, NumPy, and Scikit-learn on distributed computing systems.
- Built and tuned Convolutional Neural Networks (CNNs) with custom hidden layers for pattern recognition and computer vision tasks.
- Improved model performance using architectures such as ResNet-18 and techniques including K-Fold cross-validation, hyperparameter tuning, and model evaluation metrics.

KPIT PYTHON DEVELOPER / MACHINE LEARNING ENGINEER

REMOTE, INDIA
2020-2022

- Developed, tested, and deployed full-stack web applications using Python, Django, Flask, and React, ensuring robust functionality and seamless user experience.
- Collaborated with UX/UI designers to implement visually appealing, accessible, and responsive user interfaces aligned with design specifications and usability standards.

- Worked within Waterfall SDLC methodology to deliver high-quality software products on schedule through structured phases including requirements gathering, design, development, testing, and deployment.
- Designed and developed RESTful APIs using Python Flask framework and integrated third-party APIs for payment processing, authentication, and data aggregation services.
- Contributed to full-stack web and application development using Python, HTML5, CSS3, Bootstrap, JSON, XML, and modern JavaScript frameworks.
- Implemented Python-based test automation frameworks and followed Test-Driven Development (TDD) practices using Pytest, unittest, and Selenium to ensure code reliability and maintainability.
- Utilized MySQL as the backend relational database and leveraged Python's MySQL DB connector for efficient database connections, queries, and transactions.
- Developed dynamic, interactive presentation layers using Ajax for asynchronous data loading and jQuery for client-side DOM manipulation and event handling.
- Coordinated with cross-functional frontend and backend development teams to ensure seamless API integration, data flow, and optimal application performance.
- Applied machine learning libraries including Pandas, NumPy, Seaborn, SciPy, Matplotlib, and Scikit-learn for exploratory data analysis, feature engineering, and predictive model development.
- Integrated machine learning algorithms into production applications, focusing on Natural Language Processing (NLP) and computer vision use cases for real-world business problems.
- Trained and evaluated deep learning models including Attention mechanisms, Bi-directional RNN, and Multi-Layer Perceptron (MLP), achieving over 90% classification accuracy in musical instrument recognition using VGGish audio features.
- Implemented ConvNeXt model architecture based on Facebook AI Research to enhance object detection and instrument classification accuracy through transfer learning and fine-tuning.
- Conducted thorough code reviews and provided constructive feedback to team members to maintain code quality, consistency, and adherence to best practices.
- Used Git and GitHub for distributed version control, branch management, pull requests, and collaborative codebase management across development teams.
- Participated in automated testing, system integration testing, and regression testing with a focus on identifying, debugging, and resolving defects and performance bottlenecks.
- Managed project timelines, sprint deliverables, and stakeholder expectations to consistently deliver high-quality technical solutions within established deadlines and budget constraints.
- Administered application deployment, configuration management, and monitoring on production servers using Linux environments and deployment automation tools.

EDUCATION

CONESTOGA COLLEGE

Post Graduate Degree - Web Development

Project: Social media App (React, Django, PostgreSQL)

Ontario, Canada

2022-2023

Core Features

- **User Authentication & Authorization:** User registration, login/logout functionality, JWT token-based authentication, and secure password management using Django's built-in authentication system.
- **User Profiles:** Custom user model with profile pages displaying user information, profile pictures, bio sections, follower/following counts, and profile editing capabilities.
- **Post Management:** Create, read, update, and delete (CRUD) operations for posts, including text content and media uploads, timestamp tracking, and post visibility controls.
- **Social Interactions:** Like and comment functionality on posts, follow/unfollow other users, friend request system, and real-time notification features for user engagement.

Technical Architecture

- **Backend (Django):** Django REST Framework for API development, PostgreSQL database for data persistence, serializers for data transformation, and models for User, Post, Comment, and Friend Request entities.
- **Frontend (React):** Component-based UI architecture, state management using Redux or Context API, responsive design implementation, asynchronous API calls using Axios or Fetch, and dynamic routing with React Router.
- **Integration:** RESTful API endpoints connecting frontend and backend, CORS configuration for cross-origin requests, JWT authentication for secure API access, and media file handling for user uploads.

Project: Trend Forecasting using Logistic Regression (HTML, Flask, MySQL)

Core Functionality

- **Predictive Analytics:** Logistic Regression model for binary or multi-class classification to forecast trends based on historical data patterns, implementing supervised machine learning for prediction accuracy.
- **Data Processing:** Feature engineering and data preprocessing pipeline, training dataset preparation with historical trend data, and model evaluation using accuracy metrics and confusion matrices.

Technical Implementation

- **Backend (Flask):** Lightweight Python web framework for API routing, model integration for real-time predictions, form handling for user input data, and result rendering through Jinja2 templates.
- **Database (MySQL):** Relational database storing historical trend data, user queries, and prediction results with normalized schema design for efficient data retrieval.
- **Frontend (HTML/CSS):** User interface for data input forms, visualization of prediction results and trend graphs, and responsive layout for cross-device compatibility.