

Prasant Pradeep

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SUMMARY

Software Engineer of experience building scalable full-stack applications and AI-driven microservices using Python (Flask, FastAPI) and JavaScript (Node.js, React). Proven ability to optimize performance, mentor teams, and deliver high-quality solutions under pressure.

WORK EXPERIENCES

Software Developer (Co-op)

Conestoga SMART Centre

January 2025 – April 2025

Cambridge, ON

- Handled 5,000+ monthly organization registrations by developing a MERN-stack application (Node.js/Express APIs, MongoDB schemas, React UI), resulting in a 30% increase in onboarding throughput.
- Improved recommendations accuracy by 15% by integrating a Python Tensorflow microservice to generate semantic embeddings for mission statements, resulting in more relevant match suggestions.
- Boosted user engagement by 25% by engineering a hybrid recommendation engine combining embedding-based cosine similarity and event-based collaborative filtering, resulting in higher click-through rates.
- Reduced environment setup time by 67% by containerizing MERN service and the Tensorflow microservice with Docker Compose, leveraging AWS S3 for asset storage and Elastic Beanstalk for streamlined deployments, resulting in faster, one-command environment provisioning.
- Cut recommendation response latency by 40% by implementing vector caching and score normalization optimizations, resulting in median API response times dropping from 500ms to 300ms.
- Worked in an Agile environment with cross-functional teams, delivering sprint objectives across 6 sprints, contributing to a 25% faster project delivery rate.

Software Developer Intern

Technocolabs

February 2023 – March 2023

Pune, IND

- Supported senior developers by authoring 12+ Python ETL scripts to process 5,000+ employee records daily, cutting manual data-prep time by 75%.
- Built and maintained JavaScript dashboard components with React and Chart.js to visualize attrition trends, increasing stakeholder data access by 40%.
- Collaborated on refactoring a legacy python codebase, improved test coverage from 45% to 75% and reduced production bug reports by 20%.
- Automated end-to-end tests using pytest and Jest, accelerating CI pipeline feedback loops by 50% and minimizing deployment rollbacks.
- Documented REST API endpoints and data workflows in Confluence, reducing new team member ramp-up time by 60%.

EDUCATION

Applied Artificial Intelligence And Machine Learning

Conestoga College | CGPA: 3.80

May 2024 – April 2025

Waterloo, ON

Big Data Solutions Architecture

Conestoga College | CGPA: 3.60

May 2023 – December 2023

Kitchener, ON

Bachelor of Data Science

SRIHER | CGPA: 3.50

July 2019 – August 2022

Chennai, IND

VOLUNTEERING EXPERIENCE

VOLUNTEER

MT- Space

July 2024 - Present

Kitchener, ON

- Supported event setup by arranging chairs, tables, and venue spaces, ensuring a welcoming and organized environment for attendees.
- Greeted and guided guests during events, providing directions and assistance to enhance the visitor experience.
- Collaborated with staff and volunteers to maintain smooth event operations and deliver a positive, inclusive atmosphere.

PROJECTS

Weapon Detection System | [Github](#)

August 2024 – September 2024

YOLOv4, OpenCV, Computer Vision, AWS

- Developed a python/Flask microservice exposing RESTful endpoints for real-time weapon detection using YOLOv4, achieving 92%+ accuracy on live video feeds.
- Engineered a multithreaded OpenCV pipeline to process 30+ FPS streams with average detection latency under 120ms, reducing CPU load by 30%.
- Deployed the trained YOLOv4 model using Flask API and hosted it on AWS Elastic Beanstalk for scalable production use.
- Implemented CI/CD with GitHub Actions and wrote pytest unit/integration tests

Street Fighter Game AI | [Github](#)

September 2024 – December 2024

Reinforcement Learning, Gym, Python

- Implemented a reinforcement learning agent to play a simplified Street Fighter-like environment using Q-Learning and Deep Q-Networks.
- Trained the agent using custom reward functions and experience replay to optimize moves and strategy selection.
- Processed gameplay frames and structured the environment using OpenAI Gym-like custom setups.
- Built a Node.js/Express service exposing REST and WebSocket endpoints to start/stop training jobs and stream live metrics, storing 200+ experiment artifacts in AWS S3 for team-wide reproducibility and boosting developer productivity by 30%.

Cricket Team Analysis | [Github](#)

July 2024 – August 2024

Data Analysis, Feature engineering, Power BI

- Scraped detailed player and match data (10K+ records) from ESPN Cricinfo using Python and BeautifulSoup.
- Performed data cleaning, wrangling, and transformation with pandas to prepare structured datasets.
- Developed interactive dashboards in Power BI with filters for match types, player roles, and venues, enabling dynamic analysis.
- Used DAX formulas and Power Query to build KPIs for player ranking and team recommendation strategies.

SKILLS

Programming & Development:

- Python, SQL, JavaScript (Node.js, React.js), Typescript, Git, REST APIs, Tailwind CSS, MongoDB, PostgreSQL, Flask, Docker.
- Used for building full-stack AI-driven web applications, backend API development, and deploying ML services in real-time projects.

Machine Learning & AI:

- TensorFlow, Scikit-learn, PyTorch, CatBoost, XGBoost, NLP (Universal Sentence Encoder, LSTM), Computer Vision (YOLOv4, OpenCV).

Data Engineering & Analysis:

- ETL Pipelines, Feature Engineering, Data Wrangling, Apache Spark (Basics), MongoDB, MySQL, Data Modeling.

Data Visualization & Business Intelligence:

- Power BI, Tableau, Matplotlib, Seaborn, DAX, Power Query.
- Created interactive dashboards and visualizations to communicate actionable insights and improve decision-making for projects and stakeholders.

Cloud & Deployment:

- AWS (S3, EC2, Elastic Beanstalk), Azure (Basics), GitHub Actions (CI/CD), Microservices Deployment.
- Deployed ML models and full-stack applications to cloud environments using Dockerized microservices, ensuring scalability and 95% uptime.

Soft Skills:

- Problem Solving, Critical Thinking, Agile Collaboration, Communication, Adaptability, Ownership Mindset.
- Demonstrated through cross-functional teamwork, sprint-based delivery, client-focused problem solving, and ownership of project modules.