PRADYOTH SINGENAHALLI PRABHU

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Python/Django Developer

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Education

University of Massachusetts - Dartmouth **Aug 2022 - present**
Master of Science in Data Science | GPA: 4.0/4.0 *Dartmouth, Massachusetts*
BMS Institute of Technology and Management **Aug 2015 - Jul 2019**
Bachelor of Engineering in Telecommunication Engineering *Bengaluru, India*

Skills

Languages	Python, SQL, JavaScript.
Web Development	Django, Django Rest Framework, Celery, GraphQL (Ariadne), JavaScript (DOM manipulation, AJAX), D3.js, HTML/CSS, Unit Testing with Django (Pytest), JWT, Gunicorn, Nginx.
Big Data & Cloud	Amazon Web Services (AWS), Microsoft Azure, PySpark, Apache Kafka, Hadoop, Airflow, Hive.
Database	PostgreSQL, MySQL, DynamoDB, MongoDB, Neo4J, Redis.
DevOps & Tools	Git, GitHub Workflow, GitLab - CI/CD, Docker, PEP 8 (Python Code Style), Postman.

Technical Experience

Capstone Project (in Collaboration with U.S. Fish & Wildlife Service) **Jan 2024 - present**
University of Massachusetts Dartmouth *Dartmouth, Massachusetts*

- **Large-Scale Fish Video Analysis** | *Django ORM, REST API, Docker, OpenCV, Celary, Redis, AJAX*
  - **Processed 20,000+ fish videos** for **species identification** and length measurement, **achieving 94% accuracy** and reducing manual analysis time by over 80%.
  - Built a **scalable Django web application** for **concurrent processing** of up to **100 videos** with real-time updates via **AJAX**, enhancing user experience.

Associate Backend Developer **Sept 2019 - Jul 2022**
Metalab Innovation LLP. (QNIX) *Bengaluru, India*

- **Lead Developer: Qelza - Work Management Solution** | *Django, ORM, EC2, Git, CI/CD, Docker, GraphQL (Ariadne), PostgreSQL*
  - **Spearheaded a team of 5 developers** to complete Qelza's backend development with Django, delivering on-time and within budget for Happi Mobiles.
  - Architected a highly efficient **GraphQL API schema** for Qelza, resulting in a **35% improvement** in data querying and manipulation compared to the previous REST API streamlining the development process and enabling complex data interactions.
  - Deployed **GitLab CI/CD pipelines** for continuous integration and deployment, and containerized the application using **Docker** for enhanced scalability, reducing **deployment times by 23%**.
  - Developed and implemented a comprehensive **testing suite**, achieving a **50% reduction** in post-deployment **issues**.
  - Maintained comprehensive **documentation**, boosting team **productivity by 25%**.
- **Deep Learning Engineer: Advanced Camera Analytics** | *TensorFlow, Apache Airflow, Quicksight, Triplet loss, Parallel Computing*
  - Engineered a YOLO-based deep learning algorithm with **parallel processing**, achieving **95% person detection accuracy** and a **2.4x speedup**, improving efficiency by 30%.
  - Implemented **triplet loss for face clustering**, resulting in a 15% reduction in false positives and a 20% improvement in identification accuracy, ultimately achieving an **87% recognition rate**.
  - Optimized and maintained an **Airflow scheduler**, automating and efficiently managing cron jobs, **saving approximately 2 hours daily per engineer**. This ensured seamless and timely operations of critical processes.
- **Large Scale Tattoo Detection System** | *Django, PyTorch, S3, EC2, Lambda, YOLO, OpenCV, Docker*
  - Created a tattoo detection and identification system with 91% accuracy using YOLO and PyTorch, showcasing efficient object recognition.
  - Enhanced the system by developing a user-friendly Django API with secure **OTP-based login** using **Django Passwordless**, streamlining user experience.

Projects

Data Processing & Storage Pipeline for E-Commerce Behavior Data | *Apache Kafka, PySpark, Tableau* **Sept 2023 - Dec 2023**

- Designed, developed, and deployed a scalable **ETL data ingestion pipeline**, efficiently handling **>100GB** of e-commerce data.
- Built a Kafka-powered data streaming pipeline handling **5,000 user actions per second** in real time.

Customer Segmentation Clustering | *Unsupervised Learning, PCA, Elbow Method* **Sept 2022 - Dec 2022**

- Leveraged k-means and Agglomerative clustering to identify 4 distinct customer segments based on purchasing behavior, including high-value spenders and budget-conscious buyers.
- Produced actionable insights for **four customer clusters**, aiding in the creation of **targeted marketing strategies**.