

Raj Pulapakura

Full Stack Engineer

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Skills

- JavaScript, TypeScript, HTML, CSS, React.js, Next.js, Node.js, REST APIs, GraphQL, MySQL, PostgreSQL,
- MongoDB, Redis, GCP, Git, GitHub, Firebase, Docker, AWS ECR EC2 API Gateway Dynamo DB Lambda Athena
- Python, SQL, TensorFlow, Keras, PyTorch, Scikit-learn, NumPy, Pandas, Matplotlib, Pyplot, OpenCV, ChromaDB

Work Experience

Algorithm, Melbourne

Jan 2024 - Present

Software Engineer

- Designing and implementing interfaces and APIs with payments infrastructure using modern web development technologies including Next.js and JavaScript, working on both frontend and backend.
- Developing Python scripts to process geospatial and agricultural data from AWS S3 cloud into reports.
- Engineering pipelines to log user activity through AWS S3 and AWS API Gateway for customer support.
- *Next.js, TypeScript, JavaScript, AWS S3 API Gateway S3 ECR Athena Glue Lambda, Python, Stripe, Firebase*

Project Work

Footwear Ecommerce Website, [code](#)

- Developed a full-stack ecommerce website for footwear with React.js/JavaScript and Material UI.
- Features include account creation, full-text product search, and payments integration with Stripe.
- Built backend infrastructure to handle API requests and an authentication cache, using the powerful backend technologies GraphQL and Redis, and a database system with MySQL and TypeORM.
- Deployed the website using modern containerization technologies Docker and AWS ECR.
- *React.js, JavaScript, Material UI, Stripe, GraphQL, Redis, MySQL, TypeORM, Docker, AWS ECR*

Image Search Engine, [code](#), [web](#), [video](#)

- Engineered a full-stack website with Next.js, TypeScript and Vercel, enabling users to easily find similar images.
- Implemented drag-and-drop functionality, a beautiful grid layout, and sidebar navigation and animation.
- Deployed a PyTorch computer vision model through a REST API integration backend built with BentoML and hosted using automated Terraform infrastructure for AWS API Gateway and AWS Lambda.
- Drove backend latency down by 20% of baseline through optimization of model architecture.
- *Next.js, TypeScript, Vercel, Tailwind CSS, PyTorch, REST API, BentoML, TerraForm, AWS API Gateway, AWS Lambda*

Comment Toxicity Checker, [code](#), [web](#), [model](#)

- Developed a full-stack application using Next.js, TypeScript and Tailwind CSS that allows users to get a toxicity rating on their text, deployed with Vercel.
- Used TensorFlow to train a Natural Language Processing text classification model on 55 MB data, TensorFlow Lite to efficiently store model shards in repo, and TensorFlow JS to dynamically serve model on frontend.
- *Next.js, TypeScript, Tailwind CSS, Vercel, TensorFlow, TensorFlow Lite, TensorFlow JS*

Certifications

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|---|----------|
| • Database and SQL for Data Science with Python , IBM | Dec 2023 |
| • Deep Learning Specialization , DeepLearning.AI | Dec 2023 |
| • Advanced Machine Learning on Google Cloud , Google Cloud | Nov 2023 |
| • IBM Professional Machine Learning Certificate , IBM | Sep 2023 |
| • TensorFlow Developer Certificate , TensorFlow | Aug 2023 |

Other

- Active contributor to the open-source packages TensorFlow and Scikit-learn.
- Write a technical blog on Medium and post videos on YouTube, sharing my passion for AI/ML.