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# Raj Pulapakura

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I am an aspiring Full Stack Developer and Machine Learning Engineer (open to both roles). I love creating full-stack applications that combine the elegance of beautiful websites and the functionality of machine learning models.

## TECHNOLOGIES AND LANGUAGES

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- **Languages:** Python, SQL, JavaScript, TypeScript, HTML, CSS, Dart
- **Technologies:** React.js, Next.js, Node.js, Express.js, REST APIs, GraphQL, FastAPI, AWS, GCP, Tailwind CSS, Material UI, Flutter, Firebase, TensorFlow, PyTorch, Scikit-learn, NumPy, Pandas, OpenCV, MySQL, PostgreSQL, MongoDB
- **Other:** Git, GitHub, Docker, Kubernetes, JSON

## CERTIFICATIONS

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

## PROJECTS

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GitHub: [github.com/raj-pulapakura](https://github.com/raj-pulapakura) (for additional information regarding projects and open-source contributions)

### Shoe Ecommerce Website | [GitHub](#)

- Developed a modern ecommerce website for users to browse and purchase shoes online.
- Features: product catalogue page, product details page, product navigation (search bar), shopping cart, product filters and sorting, admin page, and payments through Stripe.
- Utilized: TypeScript, React.js, Material UI, Redux, Node.js, Express.js, GraphQL, TypeORM, Stripe API, Redis, Docker, Docker Compose, MySQL

### Comment Toxicity Checker | [Website](#) | [GitHub](#)

- Developed a full-stack application using Next.js/TypeScript that allows users to get a toxicity rating on their text.
- Used TensorFlow to train an NLP classification model, TensorFlow Lite to efficiently store model shards in repo, and TensorFlow JS to dynamically serve model on frontend.
- Utilized: Next.js, TypeScript, Vercel, Tailwind CSS, TensorFlow, TensorFlow Lite, TensorFlow Lite

### Image Search Engine | [Website](#) | [GitHub](#) | [Video demo](#)

- Developed a website using Next.js/TypeScript which allows users to find similar images to images they already have.
- Implemented a custom drag and drop interface for easy use.
- Trained and developed a computer vision model with PyTorch to compute similarity scores between images.
- Connected model and frontend through REST API built with BentoML and hosted by AWS Cloud.
- Utilized: Next.js, TypeScript, Tailwind, PyTorch, BentoML, AWS (API Gateway, Lambda functions), TerraForm

### Real-Time Gesture Detection Dino Game | [GitHub](#) | [Video demo](#)

- Created a replica of the chrome dinosaur game with Python, where the jump action is controlled through hand gestures captured through the webcam.
- Employed OpenCV to capture and process webcam feed and TensorFlow to develop a real-time object detection model reaching precision of up to 97%.
- Optimized model performance rigorously to ensure balance between detection accuracy and game frame rate.
- Utilized: Python, PyGame, TensorFlow, OpenCV, NumPy

## OTHER

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- I actively contribute to the open-source packages TensorFlow and Scikit-learn.
- I write a technical blog on [Medium](#) sharing my passion for software development.
- I have a [YouTube channel](#) where I post video demonstrations of my projects and video summaries of books I read.