

# Alan Huynh

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## EXPERIENCE

### Software Engineer

Sep. 2024 - Present

*Math Song Pty Ltd*

*Melbourne, VIC*

- Engineered and deployed a Python-based invoice automation pipeline using GCP and dokku, reducing manual processing time by 80% for 1000+ monthly invoices
- Implemented REST APIs using FastAPI to integrate multiple payment gateways, achieving 99.9% uptime and processing \$200K+ in transactions
- Developed CI/CD pipeline using GitLab CI, reducing deployment time by 60% and maintaining 95% test coverage

### Machine Learning Engineer

Feb. 2024 - Sep. 2024

*A.I.gorithm*

*Melbourne, VIC*

- Built and deployed a CatBoost-based emission prediction model achieving 85% accuracy across 50,000+ Australian mesh blocks
- Implemented pixel-wise crop classification using Convolution-LSTM architecture, improving accuracy by 40% over baseline models
- Orchestrated ML pipeline on AWS SageMaker, reducing training time by 65%.

### Data Scientist

Jan. 2022 - Jan. 2024

*LUX Aerobot*

*Melbourne, VIC | Hybrid*

- Developed real-time disaster detection model using YOLOv5, achieving 92% accuracy on aerial imagery across 5 disaster types
- Built end-to-end ML pipeline using AWS SageMaker and MLFlow, reducing experiment iteration time from days to hours
- Optimized image segmentation models for edge devices, reducing inference time by 75% while maintaining 90% accuracy

## EXTRACURRICULAR

### Green Battery Hack

Apr. 2024 - May 2024

*MLAI Aus*

*Melbourne, VIC*

- Led development and optimization of a machine learning model for Australian energy spot market trading, securing first place on innovation track
- Managed AWS infrastructure and utilized Docker for CI/CD pipelines for model iteration and deployment

## PROJECTS

### LivingMap Melbourne | *Next.js, Supabase, Python*

Nov. 2024 - Present

- Built full-stack application showing real-time heat maps of livability scores across Melbourne using 100,000+ data points
- Implemented user authentication and preferences storage using Supabase

### Torch Activations | *Python, PyTorch, Poetry*

Apr. 2023 - Jun. 2023

- Published PyPI package implementing 18+ activation functions/layers
- Achieved 100% test coverage and automated deployment using GitHub Actions and Poetry

### Compact CNN (CFCN) | *PyTorch, Python*

Jun. 2022 - Jul. 2022

- Implemented novel lightweight CNN architecture from research paper, achieving 90% accuracy with 75% fewer parameters

## EDUCATION

### Melbourne Polytechnic

Melbourne, VIC

*Bachelor of Information Technology (First Year)*

*Feb. 2024 - Present*

### Deakin University

Melbourne, VIC

*Deakin Accelerated Program - Machine Learning Focus*

*Feb. 2023 - Oct. 2023*

## TECHNICAL SKILLS

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**Languages:** Python, SQL, JavaScript, C++, Bash

**ML/AI:** PyTorch, TensorFlow, Scikit-learn, OpenCV, MLflow, sktime

**Cloud & DevOps:** AWS (SageMaker, Lambda, S3), Azure, GCP, Docker, Git, GitHub, GitLab

**Web & Data:** FastAPI, GraphQL, Next.js, Vue.js, PostgreSQL, Pandas, NumPy

## CERTIFICATIONS

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**AWS Solutions Architect Associate** - Amazon Web Service

**Microsoft Azure Data Engineering Associate** - Microsoft

**Google Project Management: Professional Certificate** - Google