





Abdoulie Fatty, Ph.D.

Machine Learning Scientist working on the frontier of research and development. Experienced in developing and deploying Machine and Deep learning models combined with a track record for identifying new problem areas and researching technical details to develop innovative products and solutions by leveraging AI to solve real-world problems.

 [fatty-bamba.me \(portfolio\)](#) [linkedin.com/in/fatty-bamba](#) [github.com/fatty-bamba](#) [afatty13@gmail.com](#)

Experience

01/2019 12/2022	AI Doctoral Research Associate , National Taiwan University of Science and Technology, Taipei. <ul style="list-style-type: none">Developed AI-based mobile apps for landslide assessment while considering critical factors like earthquakes and heavy rainfall.The apps enable engineers to perform quick assessment of slope safety in less than 10 seconds instead of the 1 hour it takes using conventional methods.
01/2021 01/2022	Project-Based Machine Learning Engineer , sinotech engineering consultants, Taipei. <ul style="list-style-type: none">Developed an automated instance segmentation based model for building extraction from aerial imagery data.Reduce building extraction cost and time from aerial imagery data by up to 95%.

Education

2019-2022	Ph.D. in Civil Engineering , National Taiwan University of Science and Technology, Taipei. <ul style="list-style-type: none">Published 6 papers on ML and DL methods for solving complex engineering problems.
2017-2019	M.Sc. in Civil Engineering , National Taiwan University of Science and Technology, Taipei. <ul style="list-style-type: none">Focused on predictive analysis and optimization to solve challenging slope safety problems.
2012-2016	B.Sc. in Civil Engineering , National Taipei University of Science and Technology, Taipei.








Selected Publications

02/2023	Instance Segmentation Based Building Footprint Extraction Using Multispectral Aerial Imagery Data.
05/2022	Recurrent Neural Network Based IOS Mobile Applications for Slope Safety Assessment. [Paper]
08/2018	Back Analysis Algorithm Based on Particle Swarm Optimization. [Paper]
Additional ML publications are available on my Google Scholar. [publications]	

Selected ML Projects

06/2022	Slope Safety Prediction. Developed a hybrid GA-XGBoost model for safety assessment of slopes. Deployed a web app for stability number prediction of slope cases. GitHub
02/2023	Predictive Time Series Forecasting Model for Property Price Prediction. Implemented exploratory data analysis, data visualization, and featuring engineering to developed a highly efficient predictive time series forecasting model ($R^2 \approx 0.97$). GitHub

Technical Skills

Tools	 Python, JavaScript, PyCharm, Flask	 Jupyter, VS Code	 AWS: EC2, Lambda, S3	 Git, Node.js
Packages	 Pytorch, Tensorflow, Fastai, Core ML	 NumPy, Pandas, SciPy, Seaborn	 XGBoost, RNN, Mask R-CNN	

Soft Skills

Key skills	<ul style="list-style-type: none">Detail-oriented and scientific mindsethighly motivated and collaborative team player	<ul style="list-style-type: none">Highly experienced in working on team projectsExcellent communication and writing skills
Languages	English (native), Chinese (fluent)	