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)

in linkedin.com/in/fatty-bamba

github.com/fatty-bamba

afatty13@gmail.com
afatty13@gmail.com

Experience

01/2019

AI Doctoral Research Associate, National Taiwan University of Science and Technology, Taipei.

12/2022

- 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

Project-Based Machine Learning Engineer, sinotech engineering consultants, Taipei.

- Developed an automated instance segmentation based model for building extraction from aerial imagery data.
- 01/2022 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.

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.

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 </br>
Python, JavaScript, PyCharm, Flask

Jupyter, VS Code

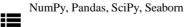
AWS: EC2, Lambda, S3



Packages



Pytorch, Tensorflow, Fastai, Core ML





Soft Skills

Key skills • Detail-oriented and scientific mindset

- Highly experienced in working on team projects
- highly motivated and collaborative team player
- Excellent communication and writing skills

Languages English (native), Chinese (fluent)