

ANNMARGARET TUTU

ML/DL/DATA ENGINEER/RESEARCHER

857-600-9277 | codeamt.github.io |

Open Source Code / Projects

Blockchain Mining Pool Game Strategy Simulation

Implemented a mining game environment and players with Swift5 and Kitura web server framework; coded mining strategies to (a) compute maximum relative rewards with set parameters and (b) reduce utility for selfish players.

Algorithm Cross-Look for Bitcoin Price Forecasting

Engineered a multivariate time-series dataset for the bitcoin historical price index; implemented forecasting algorithms in Python and with industry-standard libraries; compared prediction performance Achieved a 5.6×10^{-10} RMSE rate regressing 29 linear features.

Udacity-Facebook Kaggle PyTorch Challenge

Visualized statistical moments; augmented a dataset of the most frequent flower types occurring in the UK; performed transfer learning with a pre-trained ResNet50 graph to model an image classification problem for 102 categories with 99% accuracy. Scored in the top quartile of private leaderboard submissions.

DeepBlock Mobile Edge-computing (MEC) Network

Developing a blockchain-based stack MEC MVP in Swift/Python that prototypes a Proof-of-Decentralized-Convergence ("PoDC") protocol for more energy-efficient mobile mining. Presented abstract at peer-reviewed Workshops co-located at NeurIPS 2018.

Degrees / Certificates

Android Development Nanodegree Google / Udacity	Mar. 19 6 Projects
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Advanced Data Science Specialization IBM / Coursera	Mar. 18 5 Courses
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Deep Learning Specialization deeplearning.ai	Mar. 18 5 Courses
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BSc. in Film & Television Boston University	May 13
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Work History

Software Developer, Freelance Self-Employed	Present Mar. 15
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Product Engineer, Founder Blaqbox LLC.	Dec. 17 Mar. 15
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Data Visualization Engineer Pagos, Inc.	Mar. 15 Sep. 14
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Research Involvement

Work Group Member, OLM Mechanism Design for Social Good	Spr. 19
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Fast.ai Live International Fellow Facebook / Udacity	Spr. 19
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Publications / Working Papers

"DeepBlock: a decentralized approach to hardware acceleration for deep learning." (2018)

"Circular queue game and infrastructure design for mining pools." (2019)

"Moving Video Witnessing to a Decision-Making Blockchain." (2019)

Scholarships / Awards

Grow with Google Scholarship	Jan. 18
Edie Windsor Coding Scholarship	Jul. 17

Languages / Frameworks / Tools

Python 3+, Java, Swift 5, JS, SQL, Solidity
Fast.ai, PyTorch, TF/Keras, PySpark, DL4J
Flask, Kitura, React.js, Spark, Android/iOS
Git, SSH, TCP, Linux, Docker, Kubernetes