YANALL BOUTROS

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Baltimore, MD

EDUCATION

University of California, Santa Cruz September 2016 - August 2020

- Bachelor of Science (B.S.) Physics, B.S. Computer Science. Department GPA 3.40
- Electives: Advanced Programming, AI, Computational Physics, Quantum Computing

TECHNICAL STRENGTHS

Python, C/C++, Unix, GNU/Linux, PostgresSql, Scientific Communication, Mathematics, ViM, Problem Solving, Debugging, Testing, Modeling, Statistics, Data Structures, Markov Chains, Data Visualization, Artificial Intelligence (AI), Unreal Engine , Simulations, Tex, HTML, Selenium Web Scraping, Data Analysis, Numpy, TensorFlow, Research, Quantum Algorithms, Logic Programming, Machine Learning, Back End Engineering, Git, GitHub, Regex, Docker, Monte Carlo Simulations, Software Design, Kafka, Data Validation, Matplotlib, NodeJS

EXPERIENCE

DCS Corp October 2021 - Present
Software Engineer *Aberdeen, MD*

- Supported Army Research Lab Human Research and Engineering Directorate
- Made TensorFlow EEG Net binary classifier 70% accurate in associating physio data with firing events
- Made Unreal Engine component to provide subsystem failures in simulated NGCV vehicles
- Fixed BMP Animation issues caused by object's physics body map
- Made Kaldi Vosk and Whisper Speech-To-Text [STT] tool with supervised autocorrections
- Used transcription/correction tool to create a database and update language model lexicon
- Integrated Kafka Producer in Component Health System, Kafka Consumer, and Postgres client/server in transcription tool

FullSend Network [FSN] October 2021 - September 2022
Part-Time Manager, Software Engineer *Baltimore MD*

- Designed back-end web database in PostgreSQL for Decentralized Exchange [DEX] trade bot in NodeJS
- Implemented Neural Radial Fields [NeRF] and ZeroShot. Made transforms matrix from 2D drawings
- Setup dedicated local Dalle / Imagegen server, researched Text $\rightarrow$ 2D $\rightarrow$ 3D generation. Fixed Jax dependency issues
- Streamlined conversion from artists rendition to video game asset

Santa Cruz Institute for Particle Physics [SCIPP] August 2018 - August 2020
Undergraduate Research Assistant Intern *Santa Cruz, CA*

- Simulated interactions in the Large Hadron Collider. Optimized code for hummingbird computer cluster
- Streamlined, benchmarked, and dockerized Python workflow and modules for simulating particle physics
- Validated data by comparing measurements to theory from Feynman Diagrams and Standard Model
- Conducted research categorizing events with Machine Learning. Written in TensorFlow
- Implemented feed-forward and convolution neural networks. Explored hyper-parameter study
- Achieved 80% accuracy in binary classification of $T\overline{T}$ or ZZ parent particles
- Trained new research assistants in Python 3, provided technical support