YANALL BOUTROS

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Yanall-Boutros.github.io

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

Languages	Python, C/C++, C#, Bash, Tex, HTML, NodeJS, Haskell, Perl
Frameworks	TensorFlow, PyTorch, Unreal Engine, Bootstrap, JQuery, Numpy, Matplotlib, ViM
Infrastructure	GNU/Linux, Unix, Windows, PostgreSQL, Kafka, Docker, Git, Jira, Trello
Mathematics	Scientific Communication, Modeling, Statistics, Artificial Intelligence, Simulations
Data Science	Machine Learning, Data Analysis, Data Validation, Research, Testing, Debugging

EXPERIENCE

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

· Supported Army Research Lab Human Research and Engineering Directorate
· Made Automatic Speech Recognition [ASR] and Natural Language Processing [NLP] pipeline
· Made Kaldi Vosk and Whisper Speech-To-Text [STT] tool with supervised auto-corrections
· Made tool to accelerate corrections to update large language model [LLM] and lexicon
· Integrated STT, NLP, and Benchmarking tools in Bootstrap Express NodeJS, Dockerized services
· Finetuned GPT-J and OPT models for entity extraction and sentiment classification
· Integrated Computer Vision algorithms to compare segmentation and classification efficacy
· 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
· Integrated Kafka/PostgreSQL Producer/Consumer in Component Health System, ASR/NLP tools

Freelance Contractor: BitWorkSolutions [BWS], FullSend Network [FSN], Digital Asset Management Group [DAMG]   October 2021 - Present
Partner: BWS, Software Engineer: FSN, Manager: DAMG   *Baltimore MD*

· Made back-end web database in PostgreSQL for Decentralized Exchange trade bot in NodeJS for DAMG
· Implemented Neural Radial Fields and ZeroShot. Made transforms matrix from 2D drawings for FSN
· Setup dedicated local Jax/Dalle/Imagegen server, researched Text → 2D → 3D generation
· 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
· Implemented feed-forward and convolution neural networks in TensorFlow. Tweaked hyper-parameters
· Achieved 80% accuracy in binary classification of $T\overline{T}$ or ZZ parent particles