YANALL BOUTROS

1-530-591-3833 ⋄ YanallBoutros@ProtonMail.com

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
· Integrated Computer Vision [CV] algorithm to segment and classify instances in video feed
· Automated data generation for CV classifier by rendering post-processed scenes in Unreal Engine
· Orchestrated deployment of docker containers with unit file templates and systemd services
· 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
· Fine-tuned GPT-J and OPT models for entity extraction and sentiment classification
· Made tool to accelerate corrections to update large language model [LLM] and lexicon
· Testing extraction of survey answers from transcriptions using word embeddings
· Integrated STT, NLP, and Benchmarking tools in Bootstrap Express NodeJS, Dockerized services
· Made TensorFlow EEG Net binary classifier 70% accurate in associating physio data with firing events
· Integrated Kafka/PostgreSQL Producer/Consumer in Component Health System, ASR/NLP/CV tools

Freelance Contractor: BitWorkSolutions, FullSend Network   October 2021 - Present
Partner: BWS, Software Engineer: FSN   *Baltimore MD*

· Integrating APIs to automate generating articles of keywords for target industry and audience for BWS
· Streamlined conversion from artists rendition to video game asset for FSN
· Implemented Neural Radial Fields and ZeroShot. Made transforms matrix from 2D drawings for FSN
· Setup dedicated local Jax/Dalle/Imagegen server, researched Text $\rightarrow$ 2D $\rightarrow$ 3D generation
· Made back-end web database in PostgreSQL for Decentralized Exchange trade bot in NodeJS for FSN

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. Trained neural networks in TensorFlow
· Streamlined, benchmarked, and dockerized Python workflow and modules for simulating particle physics
· Achieved 80% accuracy in binary classification of $T\overline{T}$ or ZZ parent particles