YANALL BOUTROS

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https://yanall-boutros.github.io/

EDUCATION

University of California, Santa Cruz September 2016 - August 2020

- Bachelor of Science (B.S.) Physics and B.S. Computer Science
- GPA: 3.40

TECHNICAL STRENGTHS

Expert Python, C/C++, Unix, GNU/Linux, Communications, Mathematics, Computer Science, Physics, Problem Solving, Quantitative Analysis, Statistical Analysis, Debugging, Modeling, Testing, Algebra, Coding, Statistics, Logistics, Programming, Geometry, Computer Software,

Intermediate Java, Bash, Prolog, Perl, LaTeX, Markdown, HTML, Scheme, ViM, GitHub, Docker, Matplotlib, Numpy, Teaching, Curriculum Development, Spanish, Agile Development, Data Visualization, Machine Learning, Git, Artificial Intelligence, Data Wrangling and Web Scraping, Data Analysis, Predictive Modeling, Data Solutions, Project Management, API/Frameworks, Networking, Resource Management, Scripting Languages, Data Sets, Research and Development, Cryptography, Reverse Engineering, Collaborating, Hardware, Classical Mechanics, Electrodynamics, Nonlinear Dynamics, Thermodynamics, Statistical Mechanics, Quantum Mechanics, Quantum Computing, Monte Carlo Simulations, Hardware Engineering, Particle Physics, Lab Equipment, Algorithms, Wiring, Computer Architecture, Systems Engineering, Signal Processing, Circuit Design, Data Validation, Tombone, Creative, Team Work, Dedicated, Preparedness, Reliability, Applied Research, Technical, Technical Support, Scientific Research, Conduct Research, Excel Presenting, Chemistry, Applied Research, Software Design, Embedded Systems, Deep Learning, Data Management, Photography, R, AI, Information Technology

Basic Ocaml, Smalltalk, Pandas, Gimp, Sci-Kit-HEP, SciPy, TensorFlow, Haskell, JavaScript, PHP, SQL, Databases, Product Design, Cloud, Transformers Security Engineering, Electrical Engineering, Firmware, Training, Aircraft Pilot, React, Angular, AngularJs, Image Processing, Word Embedding Natural Language Processing, Generative Adversial Networks (GANs)

EXPERIENCE

Self Employed November 2020 - January 2021
Contract Data Recovery Services *Chico, CA*

- Built and maintained a High Performance Computer [HPC] to brute-force attack and recover an encrypted file
- Determined computational feasibility by deriving combinatorics from unique client information
- Wrote custom Haskell code to brute-force private key

University of California, Santa Cruz August 2018 - August 2020
Undergraduate Research Assistant Intern *Santa Cruz, CA*

- Conducted research in the area of categorizing events with Machine Learning, from data created by simulating such events in the Large Hadron Collider. Written in Python 3.
- Proposed different artificial neural network architectures such as feed-forward and convolution neural networks. Explored hyper-parameter study
- Benchmark Python workflow for particle physicists by streamlining and packaging various tools such as Pythia, Pyjet, and TensorFlow
- Unified and Dockerized Modules
- Coordinated with new research assistants, providing technical support for learning Python 3, Bash and GNU/Linux systems

TEACHING EXPERIENCE

Self Employed October 2019 - Present
Private Tutor *Santa Cruz and Chico, CA*

- STEM: Taught conceptual physics and pre-calculus to high-school and college students
- Piano: Taught piano and introductory music theory to ages five through twenty

University of California, Santa Cruz January 2019 - April 2019
Teacher's Aid *Santa Cruz, CA*

- Graded mechanics homework for a class of 200 students
- Coordinated with professor to develop teaching aids on topics students struggled with most

LSS - Learning Support Services March 2018 - July 2018
LSS Learning Assistant *Santa Cruz, CA*

- Tutored Physics: Waves and Optics, and Electromagnetism
- Tutored Computer Science: Introduction to Data Structures

ACADEMIC PROJECTS AND ACHIEVEMENTS

University of California, Santa Cruz May 2019 - June 2019
Undergraduate Researcher - Senior Project in Computational Physics *Santa Cruz, CA*

- Created a 2D Ising Model Simulation with varying definitions for an adjacent site
- Animates the behavior of an NxN lattice of spin-up or spin-down particles in a Monte Carlo simulation
- Demonstrates quantitatively and qualitatively, via graphs and animations, at what k_bT a phase transition occurred

University of California, Santa Cruz May 2020 - June 2020
Computer Systems Engineer - Senior Project *Santa Cruz, CA*

- Wrote a multi-threaded HTTP server with load balancer, log writing, and health-check service with file descriptors only
- Maintained design documents throughout the development process

University of California, Santa Cruz October 2019 - December 2019
Back end Engineer - Senior Project in Software Engineering *Santa Cruz, CA*

- Practiced principles of AGILE Management (Scrum) to develop an app with a team of four
- Used Python, Bash, and Regex to automate web-scraping information to store in a database

REFERENCES

References will be provided upon request.