Tony Tong

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EDUCATION

University of California, Irvine	Class of 2020
B.S. Physics	Senior
B.S. Computer Science	

EXPERIENCE

Electron Identification - ATLAS Research	Irvine, CA	CERN, Geneva
Undergraduate Researcher	Jul 2018 - Present	Jul 2019 - Sept 2019

· Worked with Prof. Daniel Whiteson on electron identification; distributed the simulation code on various clusters
· Wrote multiple Python and C++ scripts to simulate and visualize the particle collision data with ROOT
· Tweaked data analysis techniques to better represent the recent EID methods based on likelihood identification
· Developed deep neural networks to distinguish prompt electrons from background events e.g. hadrons
· Built docker and singularity images to ease the process of using various frameworks on different clusters

Quantum Computing Club at UCI	Irvine, CA
Co-Founder	Sept 2019 - Present

· Led a team of five; arranged meetings; helped establishing constitution and knowledge base on GitHub
· Made plans for the club; prepared various activities including paper discussion sessions and presentations

Fixstars Solutions	Irvine, CA
Deep Learning Engineer Intern	Apr 2019 - Jun 2019

· Developed multiple deep neural networks using PyTorch and distributed them on GPU clusters (⚙code)
· Computed various measurements in CARLA simulator with Python and C++; developed data collection CLI
· Implemented affordance learning in urban autonomous driving; tested conditional learning approach

Satellite Hydrology Bits Analysis And Mapping	Irvine, CA
Group Leader, Undergraduate Researcher	Jan 2018 - Dec 2018

· Computed hydrological anomaly by analyzing data from GRACE satellites with Dr. Cedric H.David(JPL, NASA)
· Led a team of four, gave weekly assignments and feedback (sample), hosted meetings and coordinated tasks
· Added cross-platform compatibility by Docker and native scripts based on OS (Linux/Windows/OS X)
· Improved the CI process by supporting py2/3 compatibility, maintaining dependencies and writing test scripts

UCI Department of Physics and Astronomy	Irvine, CA
Physics Tutor, Full Stack Developer	Jul 2018 - Oct 2018

· Maintained a Canvas-like application on GCP which was used by 300+ students the following quarter
· Developed the Web UI under React framework; integrated third party applications such as Quill
· Improved the security by discovering and fixing a vulnerability of the legacy system caused by a hidden API

ACCOMPLISHMENTS

Ranked #19 in IEEExtreme Competition, U.S. (top 5% worldwide out of 4049 teams)	Oct 2018
Eta Kappa Nu Member (academic honor society)	Dec 2018
Completed 92 Units with 3.92 GPA in freshman year (Dean's List)	Sep 2016 - Jul 2017

PROJECTS

HealthHelper: IoT device monitoring and encouraging workout with Arduino and Raspberry Pi
Scheca: Web app to visualize UCI course schedule and send a email notification when the course is available
MESA: React-native app to evaluate students' mental health and recommend activities to cheer them up

RELEVANT COURSES AND SKILLS

Courses: Neural Networks, Machine Learning, Advanced Algorithms, Computer Network, Signal Processing, Particle Physics, Relativity & Blackhole, Experimental Physics, Quantum Mechanics
Skills: Data Analysis, ROOT, CI, Web Dev, React, GCP, Docker, Tensorflow, PyTorch, Haskell