Daohang (Tony) Tong

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EDUCATION

The University of Texas at Austin Jan 2022 - Jan 2024
Master of Computer Science Online (with a focus on ML)

University of California, Irvine Sep 2016 - Sep 2020
Double Majors: B.S. Computer Science, B.S. Physics
Honor: Deans List for Academic Year 2016-2017 and 2018-2019; Phi Beta Kappa, Sigma Pi Sigma, Eta Kappa Nu

SKILLS

Programming Languages: Python, C/C++, Swift, TypeScript/JavaScript, Bash Shell, Haskell, Mathematica
Tools: Cocoapods, Swift Package Manager, iOS APIs (CoreData, AVFoundation, CallKit, APN, URL Session), PyTorch, Tensorflow, Docker, Django, React, React Native, AWS (EC2, S3, SageMaker, Braket), GCP, Firebase (FCM), MongoDB, Root, LaTeX

WORK EXPERIENCE

Lead iOS Developer Anaheim, CA
AiTmed - Supervisor: Austin Yu July 2021 - Present

- Developed 2 ECC end-to-end (e2e) encrypted apps for users to give/receive medical care with features such as medical notes with macro, telemedicine conferencing, bluetooth medical devices connection, and secure auto-login
- Architected a cross-platform frontend framework on iOS using swift MVVM and multi-threading with RxSwift
- Retrieved data from the backend with gRPC and improved loading speed by 40% with multi-level frontend cache
- Optimized the app's memory footprint and by 52% with heap profiling, image compression and view controller management
- Built a push notification system with FCM and APN with click-to-jump and ringtone support to improve usability
- Led a team of 4 developers to coordinate engineering effort and the design team to deliver >3 new features/week
- Improved CI/CD tooling with bash script and unit testing, saving at least 4 hours per deployment

Co-Founder/Lead Machine Learning Engineer & iOS Developer Irvine, CA
Digerini - Partner: Richard Brazill Jan 2021 - Present

- Invented key algorithms for a patent application to battle against phone call scams; Responsible for architectural road-maps for both ML and full-stack app; Launched MVP to iOS TestFlight in 1 month
- Developed an iOS app with React Native and Python Django with MongoDB that are deployed on AWS
- Built a prototypical dilated convolutional neural network to perform few-shot learning on audio data to replace SOTA
- Led five developers with Agile Scrum; Sped up team onboarding by 50% with automated documentation from annotated code

Jr. Specialist Irvine, CA
UCI & CERN ATLAS - Advisor: Prof.Daniel Whiteson Sep 2020 - July 2021

- Co-authored *Learning to Identify Electrons*, improved SOTA by 3% with CNNs, accepted in Physical Review D.
- Automated the data generation and monitoring pipeline on a cluster with Python, speeding up the process by 10x
- Constructed group equivariant neural network with symmetry constraints to be more efficient and interpretable

Deep Learning Engineer Intern Irvine, CA
Fixstars Solutions - Supervisor: Takuro Iizuka Apr 2019 - Jun 2019

- Computed the 13 measurements (e.g. distance between cars) in CARLA simulator with Python and C++; developed a command line interface to automatically collect data (ⓞ fixstars/ALUAD)
- Developed multiple deep neural networks using PyTorch and distributed them on GPU clusters
- Computed various measurements in CARLA simulator with Python and C++; developed data collection CLI

PROJECTS & ACTIVITIES

2021 Constructed a quantum enhanced GAN for HEP which was ranked top 20 in QHack, awarded $4000 AWS credits

2020 Completed all tasks in 2nd IBM Quantum Challenge; ranked top 10% among 1000+ participants

2019 Made a Web app to visualize UCI course schedule and send a email notification when the course is available
Built and trained an agent to navigate in Minecraft with generative adversarial imitation learning
Developed a React-Native app to evaluate students' mental health and recommend activities to cheer them up

2018 Implemented an intelligent quiz app with Python and ReactJS which supports online editing, publishing quiz, generating printed exam and analyzing students' data which was used by 300+ students
Ranked #19 in IEEExtreme Competition, U.S. (top 5% worldwide out of 4049 teams)