

Daohang (Tony) Tong

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EDUCATION

University of California, Irvine

Sep 2016 - Sep 2020

Double Major: B.S. Physics, B.S. Computer Science

SKILLS

Programming Languages: Obj-C, Swift, Python, C/C++, TypeScript/JavaScript, Bash Shell, Haskell, Mathematica

Tools: Cursor, iOS APIs (DispatchQueue, Swift UI, Swift Data), PyTorch, SQL, Docker, Django, React, React Native, AWS (EC2, S3, SageMaker, Braket), GCP, Firebase, MongoDB, Supabase, Root, \LaTeX

WORK EXPERIENCE

Software Engineer

San Diego, CA

Apple

Nov 2022 - Present

- Improved iCloud end-to-end encryption infrastructure reliability using data driven approach on iOS/macOS/visionOS
- Architected and maintained a privacy centric and high performant telemetry system
- Improved Apple Account sign-in reliability and performance on HomePod and Apple TV
- Led cross-functional effort with customer centric approach with partners in other organizations to create alignment on projects

Lead iOS Developer

Anaheim, CA

AiTmed - Supervisor: Austin Yu

July 2021 - Nov 2022

- Developed 2 ECC end-to-end (e2e) encrypted apps for users to give/receive medical care with features such as telemedicine conferencing with auto-disconnect, personal index for fuzzy search, and secure password reset
- Architected a cross-platform frontend engine on iOS using swift MVVM to parse and run a customized UI description language
- Enabled concurrency with DispatchQueue and RxSwift; debugged and fixed thread-unsafe data handling issues
- Used gRPC to retrieve data and improved loading speed by 40% with multi-level frontend cache with NSCache and SQLite
- Optimized the app's memory footprint and by 52% with heap profiling, image compression and view controller management
- Built a push notification and VoIP callkit system with FCM and APNs with click-to-jump to improve the user experience
- 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 scripts, git submodule and unit testing, saving at least 4 hours per deployment

Co-Founder/CTO

Irvine, CA

Digerini - Partner: Richard Brazill

Jan 2021 - Nov 2022

- 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

July 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