

Kelvin Ma

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Experience

Google - Senior Software Engineer - Google Photos: Editing

Aug 2018 - Present

[Android, Java/Kotlin, C++, [OpenGL](#), [TensorFlow Lite](#), [MediaPipe](#), [Halide](#), [OpenCV](#), [WebAssembly](#)]

- Technical Lead and founding IC of Creative Expressions team (now 50+ ICs), responsible for all machine learning and editing features in Google Photos.
- Designed and built foundational infrastructure for on-device machine learning on Photos clients, powering features used by hundreds millions MAUs across thousands of types of devices.
- Overall Tech Lead for all aspects of Editing: Reliability/Privacy, Android MediaStore/Server edit consistency, Graphics Rendering, TensorFlow model integration.
- Led several cross-PA collaborations: Computer Vision researchers launch annual Pixel Launch features ([Magic Editor](#)); Android Graphics for [Ultra HDR](#), with Android ML to scale our existing on-device ML system across all Android devices.
- Helped to scale the team from three to several dozens of engineers through 1:1 mentorship (ranging from L3 -> L5 ICs), monthly tech talks for knowledge sharing, refining processes to remove roadblocks and decrease production bugs.
- Drove improvements to dev velocity and decreased production bugs by improving test coverage from 50% -> 72% in 1 year through combo of tech process, building testing infra, and creation of high level E2E test suite for critical user flows.

Google: - Android Studio

Nov 2016 - Aug 2018

Tech Stack: [Android, Java, Kotlin]

- Owner for Run/Deploy/Debugging flow in [Android Studio IDE](#), used by all Android developers,
- Modularized code to improve abstraction and reliability, fixed app deployment bugs and redesigned “instant run” feature to decrease iteration time for app developers.

Codecademy - Product Engineer

March 2014 - Sep 2016

Tech Stack: [Ruby On Rails, Go, React, Python, [Chef](#), AWS, [Docker](#), [ElasticSearch](#)]

- Developed a full browser based IDE used by X0 millions MAU learners using React/Ruby on Rails with WebSocket connection and Docker container images to act as VMs for learner’s sandbox.
- Directed product development and engineering of the content management application which allows external users and partner companies to create courses.
- Led engineering for the creation of a classroom tracker product used by 100K+ teachers around the world
- On Rotation as company SRE, maintaining overall infra on AWS to keep the site up through DDOS attacks, dependent service outages. Managed content service backed by Elasticsearch serving for all course content.
- Redesigning interview process for all engineers, involved in recruiting, interview, hiring of engineers to grow the company

Zynga - Senior Software Engineer – Zynga Poker

Oct 2012 - Feb 2014

Tech Stack: [PHP, Java, C#, JS, Android, iOS, Unity]

- First engineer on creation of Unity client rewrite to unify all Poker legacy clients, the team grew to over a dozen engineers in 6 months.
- Created user presence system to track user chips and fix exploits on game economy as part of the security team.
- Launched recurring leaderboards systems as backend engineer to increase DAU/WAU

Morgan Stanley - Application Developer (Intern)

Sept 2011 – Dec 2011

Tech Stack: [C#, Java]

- Developed a multi-threaded C# application for traders to analyze fixed income securities for optimal trades, iterated daily with trading desks to quickly react to changes in market and speed up execution of strategy.

Facebook - Data Engineer (Intern)

Jan 2011 – April 2011

Tech Stack: *[PHP, Python, Hadoop/Hive]*

- Built Facebook's cross segment email marketing pipeline through Hadoop/Hive Map Reduce systems in Java/Python/PHP/Perl to process terabytes of data.

Education

Georgia Institute of Technology, Master of Computer Science

Sept 2021 – Present

- Pursuing M.S.C Specialization: Machine Learning and Computer Perception
- Courses: Computational Photography, Artificial Intelligence Techniques for Robotics, Game AI, Computer Vision

University of Waterloo, Bachelor of Mathematics majoring in Computer Science

Sept 2007 – Sept 2012

- Graduated with Dean's Honor roll distinction
- Achieved GPA of 3.7