

Contact

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Top Skills

Software Design
Product Management
APIs

Languages

English (Native or Bilingual)

Honors-Awards

OzAPP App Concept awards, major prize
Best Media & Entertainment
Best Tool to Assist Travellers in Australia
People's Choice
3rd in the world, Robocup 4-Legged League

Publications

Object Recognition From Sub-sampled Image Processing

Alex North

Software Engineer / Leader • Google, Canva, AI etc
Queenstown, Otago, New Zealand

Summary

I turn great ideas, research, and world-class software engineering into products for humans. Especially interested in tools for thought, learning, collaboration, protocols, and physical-world applications. Currently deep in the problem/opportunity of education and the unrealised potential for technology to help. I have deep experience in software design and engineering, with particular expertise in data models, APIs & protocols, collaboration technology, distributed & decentralised systems, crypto/security, and technical leadership. Building the right thing is as important as building it right.

Experience

Independent

Independent

January 2026 - Present (10 months)

Exploring my next area of impact and the rapidly-changing tools and processes of building software. Building mathfactor.app and stillgotit.school.

Extensive research into the science of learning, the practice of teaching, the failings of and opportunities for education technology. Prototyping numerous primary education tools focussed on implementing Engelmann-style Direct Instruction in high-quality software for complete teaching.

Protocol Labs

Staff Engineer

January 2019 - October 2024 (5 years 10 months)

Hired as a senior SWE, but quickly became a team and technical leader for the Filecoin protocol. Promoted to the highest job level of any technical staff. Led uncertain, business-critical projects including the prototype node implementation, parts of the protocol specification, and the built-in smart contracts. Designed & implemented numerous core components in node and smart contract software. Established architecture for shared components,

testing, and interoperability. Co-opted myself to ensure critical things started by others were delivered. After network launch, I instigated and led a large fraction of all improvements delivered to the Filecoin protocol, in collaboration with cryptographic researchers, protocol designers, and others.

Known for leading effective teams, setting tone and expectations up front, demonstrating excellent team-first behaviours, and coaching more junior colleagues up to those standards. Improved velocity with collaboration patterns of small PRs and priority on code review. Ploughed through legacy and technical debt to enable colleagues to deliver feature work. Raised uncomfortable red flags to project leadership when uncertainty or risk was being mis-perceived.

Defined a SWE hiring plan and process for my team which was subsequently adopted by almost all SWE roles, transitioning the company from ad-hoc to a structured, pool hiring model. This significantly raised the standard of candidate evaluation and the subsequent hires. Established a shadowing program, trained other interviewers, and wrote the handbook on technical interviewing.

I was also a chief motivator and supporter for the role of engineering management at PL. I participated significantly in EM hiring processes and spent six months as manager-of-managers onboarding our first EM hires and conversions.

Known for technical ability, project-wide perspective, asynchronous communication, setting up people and projects for success, communicating strategy and priorities.

Lexy

Co-founder/VP Engineering

November 2015 - March 2018 (2 years 5 months)

Sydney & San Francisco

Connected the founding team for an attempt on native-quality machine translation: a novel, pragmatic, and human approach based on structure. Led engineering & process from zero through to paying customer. Designed and built core platform components, data models and services, including:

- novel extensions to context-free grammar structure and parser enabling precise, concise structural control;

- skunk re-implementation of core models and parsers for huge speed improvements;
- scalable batch translation and indexing system for rapid feedback on model changes;
- versioned corpus/outputs store providing immutability guarantees for downstream caching.

I was known for maintaining technical vision and championing long-term priorities. Led cultural movements of mindfulness, openness and gratitude. Led recruiting and brought in ¾ of the engineering team.

First Order

Founder/Principal

May 2014 - November 2015 (1 year 7 months)

Greater Sydney Area

Founded and led a small, star-quality software engineering consulting team, building technology foundations for scalable businesses. Projects included photo/messaging app back-end, web analytics database and query platforms, geospatial data storage & visualisation, special-interest social network backend and iOS app.

Consulting provided a break from serious projects to think deeply about the value and impact of my work and plan my next ventures. In addition to client work I completed various unpublished side projects.

Canva

Mercenary Engineer

February 2014 - May 2014 (4 months)

Greater Sydney Area

Designed and implemented the back-end for Canva's social layer: following, comments, liking, activity streams etc. Social graph for hundreds of thousands of users, activity streams processing millions of events per day. <http://about.canva.com/news/share-and-discover-amazing-design/>

Posse

VP Engineering

April 2011 - September 2012 (1 year 6 months)

Sydney, Australia

Built and led a team of young but brilliant engineers through two pivots to create a novel product. Dramatically raised expectations and quality of both

code and product. Instigated peer code review & continuous deployment, led hackathons and fix-its, improved quality, flexibility *and* velocity, as well as shared ownership. Drove adoption of instrumentation and a culture of shipping things we could measure.

Guided our team's best practises in service architecture, asynchronous processing, event routing, asset edge caching, etc. Designed and implemented many modules, including a novel index and back-end for socially ranked search results.

People-wise, implemented and led a thorough hiring process. Instituted personal and team objective setting and peer performance review, ensuring personal and career growth for all engineers. The team had no voluntary attrition during my leadership, and the occasional recruiter described the team as "untouchable".

Google

Senior Software Engineer

July 2008 - March 2011 (2 years 9 months)

Greater Sydney Area

Tech lead of the Google Wave data models and communication protocols. Led a small team who developed the substrate of Wave's real-time magic. Designed and implemented the Wave conversation model, internal APIs, identifiers, access control service, and many other moving parts. Purged complexity to reveal a simple, powerful core, significantly reducing the effort of new feature development. Co-wrote the client library that all seven internal services used to participate on the wave bus. Found and fixed gnarly protocol bugs until syncing was robust. Spearheaded improvements to our test organisation to keep testing easy and build-times manageable. I was known for holding high standards, solving complex design and implementation problems, and moving strategic work forward in the face of firefights and shifting priorities.

I also championed open-source and led release of significant chunks of Wave's core protocol code, along with designs and documentation, enabling our vision of interoperating wave domains. When Google withdrew support for Wave, I instigated the open sourcing of more code and rallied a team to develop the "Wave in a Box" (now Apache Wave) open source project.

Pretended to be a product manager when no-one was looking.

jamcode

Co-founder / Mobile Engineer

May 2008 - April 2009 (1 year)

Developed GasBag, the most popular fuel price finder for iPhone. Hacked touch events through a webview before iOS had a maps component to produce one of the first third-party integrations of an interactive map into a native app.

Deep Grey Labs

Co-founder / Web Engineer

January 2007 - July 2008 (1 year 7 months)

Applied machine learning, content analysis and personalisation research to build a news personalisation service. Implemented web front-end, crawler, and system architecture.

We ultimately failed to build something sticky enough, naively focussing on technology first (but this pre-dates "lean startup").

UNSW

5 years 5 months

Academic Tutor

March 2003 - July 2008 (5 years 5 months)

Tutored many undergraduate computing and software design classes from 2003 through 2008, and supervised two undergraduate research students in content analysis and personalisation techniques (2007).

Associate Lecturer

June 2006 - December 2006 (7 months)

Lectured Cryptography and Security to final-year and postgraduate students. Designed and delivered coursework, exercises and assessments. Received outstanding student feedback & evaluations.

Sensory Networks

Software Engineer

September 2005 - December 2006 (1 year 4 months)

Developed high-performance network security software incorporating custom content processing hardware. Successfully integrated proprietary content processing engine into open source anti-spam tools. Co-implemented high performance security appliance framework and related tools and applications.

Education

University of New South Wales

BSc (Hons 1), Computer Science · (2001 - 2006)