TOM HENNIGAN

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I am a senior engineer with nearly 10 years professional software engineering experience. I have a track record of delivering high profile launches with deep technical contributions across the stack. I love to travel and have represented my company at major events and on site with partners. In my spare time I enjoy bouldering and learning new skills (current focus: deep learning).

Education

2008-2012 First Class Hons MEng in Computer Science, University of Southampton.
2006-2008 5 A-levels (3 A, 2 B), Dr Challoners Grammar School, United Kingdom.
2003-2006 12 GCSEs (5 A*, 4 A, 2 B), Dr Challoners Grammar School, United Kingdom.
1999-2003 Westminster Cathedral Choir School, United Kingdom.
1996-1999 Tanglin Trust School, Singapore.

Publications

2017 Kavita Kannan et al. "Device-based filtering of content items associated with mobile applications". Patent application US 2017/0055145 A1 (US). Feb 2, 2017. URL: https://www.google.com/patents/US20170055145A1
2013 Fiona Elizabeth Herring et al. "Place heat geometries". Patent Application US 2013/0181993 A1 (US). Jan. 14, 2013. URL: https://www.google.com/patents/US20130181993

Professional Experience

2018-today Senior Software Engineer, DeepMind

Working on the TensorFlow team at DeepMind.

2015-2018 Senior Software Engineer, Tech Lead at Google

Google Play is the primary app store for Android devices, delivering apps and games to >2bn Android devices. I was the tech lead for a high profile team in the London office, working on a number of core Google Play initiatives. I led teams of up to 4 other engineers, working across PAs, timezones and cross functionally with product, UX/UXR, legal, privacy and leadership.

During my time in Play I submitted >230k lines of Java to production, spanning a diverse set of technologies such as batch and streaming pipelines, metrics serving infrastructure, RPC servers, frontend web servers and web UI (GWT, Angular and other frameworks).

I represented Google at high profile events such as Google I/O and Playtime, working directly with major partners and presenting my teams work to large audiences.

2018

- Built merchant integration for Subscribe with Google, allowing news publishers to sell subcriptions using Google Play subscription SKUs on surfaces such as AMP.
- Helped migrate Google Play to be Merchant of Record for apps, in-app products and subscriptions in the EEA.
- Working on several high profile non-public projects launching at I/O 18.
- https://blog.google/topics/google-news-initiative/introducing-subscribe-google/

2017

- Built out advanced subscription reporting in Play Console, including multi year longitudinal analysis of subscriptions with cohortized retention and churn reports.
- Rebuilt large core infrastucture components such as Play's earnings reports.
- Presented at Google I/O (recap) in Korea, Japan and held partner meetings at Playtime in Berlin.
- Ramping up on AI/ML, attended ML "crash course" in Paris and weekly reading group going through Hinton's Deep Learning Coursera course.
- Hosted intern scoping out new starategic area.

- https://android-developers.googleblog.com/2017/05/make-more-money-with-subscriptions-on.html
- https://android-developers.googleblog.com/2017/05/whats-new-in-google-play-at-io-2017.html
- https://android-developers.googleblog.com/2017/01/manage-paid-orders-and-payments.html

2016

- Integrated Google Play and Firebase, enabling data sharing (e.g. crash events) between both products when developers linked their accounts.
- Rebuilt Play Apps merchant integration with Google payments APIs, built entirely new order management functionality in Play console and built a new team to maintain and extend this new Play product.
- Built a high profile April Fools joke in my 20% time :)
- http://android-developers.blogspot.co.uk/2016/05/whats-new-in-google-play-at-io-2016.html
- http://android-developers.blogspot.co.uk/2016/03/get-your-apps-and-games-ready-for-space.html

2015

- Integrated Google Play and AdWords, allowing developers to purchase Universal App Install Campaigns from the Play Console.
- Built closed funnel report for {visit, install, purchase, repeat purchase} allowing developers for the first time to measure the performance of their entire conversion funnel.
- http://android-developers.blogspot.co.uk/2015/10/google-play-developer-console.html
- http://android-developers.blogspot.co.uk/2015/05/empowering-successful-global-businesses.html

2014

- Built advanced revenue, orders, buyers and conversion analytics pipelines and UI, working on novel solutions to simplify cohortized reports and enable multi dimensional breakdowns.
- http://android-developers.blogspot.co.uk/2014/07/grow-with-google-play-scaled-publishing.html

2012-2014 Developer at DueDil

Full stack engineer with a focus on back-end engineering and infrastructure. Integral part of team that designed and built DueDil's core distributed data processing infrastructure. Notable projects where I played a key role:

- Built an in-house framework for scheduling batch jobs for a tera-scale workload.
- Designed and deployed a multi tenant, dynamic size data processing cluster (Jenkins, Hadoop, HDFS, Heritrix and Mesos) orchestrated with Chef in Amazon EC2.
- Implement the use of automated bidding on spot-instances for our batch workload in Amazon EC2 (allowing 10x the compute resource at the same price compared to non-spot).
- Implemented a high performance bulk loading strategy for importing and indexing relational data in Postgres (one of the major databases used by DueDil) affording a 10x speedup to validate a new dataset.
- Implemented data warehouse on top of S3, including (custom) out of band garbage collection and configurable redundancy.
- Built out a substantial number of data processing jobs (largely MapReduce and web crawling) in Python for processing and widening DueDil's tera-scale dataset.
- Implemented a multi-threaded, multi-process and distributed (via Hadoop) web scraper (used for one year while we built tooling and functionality on top of Heritrix).

Summer 2011 Software Engineer Intern at Google

Worked in the Google Mobile Maps (GMM) team to design and implement an algorithm to detect boundaries for landmarks using location data. The project resulted in a distributed system that was capable of detecting features for the entire globe, de-duping, indexing and storing for serving multiple times per day.

Authored a patent https://www.google.com/patents/US20130181993.

2009-2012 Project Manager and Senior Developer at Buckle Consulting

Project manager and senior developer working with Buckle Consulting. Built and maintained in house CMS system including all core functionality (authentication, content routing, mailing lists, user management and logging).

Notable projects where I played a key role:

- Built and maintained http://www.parcelmonkey.co.uk through explosive initial growth to support £1m turnover.
- Built and scaled out http://www.theadventurists.com to facilitate high volume sign-up events and real time tracking of competitors.
- Built non-emergency patient transport booking system (thetaxibooker.com) integrated with NHS CaMIS system used by multiple hospitals on the soutch coast.
- Worked on front-end and back-end features for many other sites, in sectors such as recruitment (Escape The City), e-commerce (e.g. Trinacria Wines), parcel delivery (e.g. Parcel Monkey, PayPound Express), entertainment (e.g. We Love Your Songs).
- Re-developed in-house CMS system used by 10+ contract developers, including functionality such as authentication, user management, content routing, mailing lists, content management (WYSIWIG) and logging.

2006-2008 aMSN Project (Open Source)

At 16 I was given commit access to aMSN as a core developer. I worked on the project for about two years, working specifically on the Mac OS X port. The aMSN team were very talented and I learnt a great deal working with professional programmers from such a young age. The project had millions of downloads (see below) and was very successful, however it has recently ended due to Microsoft shutting down the MSN messenger service.

http://sourceforge.net/projects/amsn/files/stats/timeline?dates=2006-01-01+to+2009-12-30

Key skills:

- TCL/TK/C desktop application development.
- Identifying and fixing bugs in software written by others.
- Community management (actively involved in discussions forums).
- Packaging and distributing software on OS X.

Honors and Awards

2011 Google Scholar, Google EMEA

http://googleblog.blogspot.com/2011/03/2011-european-scholarship-for-students.html

This scholarship gives recognition to outstanding scientific contributions from students with disabilities who are pursuing university degrees in the field of computer science at a university in the European Union, Switzerland or Israel. It aims to help break barriers that keep students with disabilities from entering computing and encourages them to excel in their studies and become active role models and leaders in creating technology.

2008 Zepler Scholarship, University of Southampton

The Zepler scholarship is awarded to new students by the Electronics and Computer Science school for outstanding A level results upon a successful enrolment.

References

References avaialble upon request.