

# Harry Askham | CV

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I am a software engineer with eleven years of professional experience, five of which have been focused on building and leading high-performing teams across both Google and DeepMind.

My work has spanned from widely used full-stack web applications to machine learning research published in *Nature*.

I am interested in solving the engineering challenges that arise when deploying the scientific state-of-the-art in the real world.

## Education

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### University of London

*Birkbeck College*

*Oct 2014 – Aug 2016*

MSc Cognition & Computation (**Distinction**)

### University of Cambridge

*Christ's College*

*Oct 2008 – Jun 2011*

BA (Hons.), MA (Cantab), Computer Science (2.1)

## Experience

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### DeepMind

**London**

*Staff Software Engineer, Applied*

*Aug 2020 – Present*

- Engineering lead focused on delivering real-world applications of DeepMind AI.

### Google

**London**

*Engineering Lead, Health Research UK*

*Jan 2019 – Aug 2020*

- Grew and led Google Health's 23-engineer research team in the UK.
- Managed three subteams across ophthalmology, radiotherapy and medical records research.
- Focused on the deployment of state-of-the-art machine learning models.

### DeepMind

**London**

*Staff Software Engineer, Health Research*

*Oct 2016 – Jan 2019*

- Built and led a 12-person engineering team in Health Research.
- Designed and built the infrastructure behind several *Nature*-family publications.
- Created UXR-driven iOS prototypes for the deployment of clinical predictions.

### Google

**London**

*Senior Software Engineer, AdWords & Sales*

*Oct 2011 – Oct 2016*

- Tech lead for full-stack team of 8 engineers building high-revenue sales tools.
- Led engineering for a knowledge management system relied upon by 20,000+ Google salespeople.

### Bloomberg

**London**

*Research & Development (Internship)*

*Jun 2010 – Sep 2010*

- Given sole control of an important, time-critical project.
- Designed and delivered a suite of network simulation and testing tools in C++.

## Skills

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- Hiring, building and leading effective engineering and research teams
- Designing and implementing complex Google-scale distributed systems
- Building machine learning infrastructure and data engineering machinery
- Full-stack production application development

## Languages

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- Significant Haskell experience and passion for functional programming
- Python (incl. TensorFlow, PyTorch, Jax, NumPy, SciPy, etc)
- JavaScript, TypeScript, PureScript, Elm and experience with modern web development
- iOS + MacOS development experience in both Swift and Objective-C
- Less recent professional experience in C++, Go and Java

## Selected Publications

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Nikolov, Stanislav, Sam Blackwell, Alexei Zverovitch, Ruheena Mendes, Michelle Livne, Jeffrey De Fauw, Yojan Patel, Clemens Meyer, **Harry Askham** et al. "Clinically Applicable Segmentation of Head and Neck Anatomy for Radiotherapy: Deep Learning Algorithm Development and Validation Study." *Journal of Medical Internet Research* 23, no. 7 (2021): e26151.

Tomašev, Nenad, Natalie Harris, Sebastien Baur, Anne Mottram, Xavier Glorot, Jack W. Rae, Michal Zielinski, **Harry Askham** et al. "Use of deep learning to develop continuous-risk models for adverse event prediction from electronic health records." *Nature Protocols* (2021): 1-23.

Yim, Jason, Reena Chopra, Terry Spitz, Jim Winkens, Annette Obika, Christopher Kelly, **Harry Askham** et al. "Predicting conversion to wet age-related macular degeneration using deep learning." *Nature Medicine* (2020): 1-8.

Tomašev, Nenad, Xavier Glorot, Jack W. Rae, Michal Zielinski, **Harry Askham**, Andre Saraiva, Anne Mottram et al. "A clinically applicable approach to continuous prediction of future acute kidney injury." *Nature* 572, no. 7767 (2019): 116-119.

De Fauw, Jeffrey, Joseph R. Ledsam, Bernardino Romera-Paredes, Stanislav Nikolov, Nenad Tomasev, Sam Blackwell, **Harry Askham** et al. "Clinically applicable deep learning for diagnosis and referral in retinal disease." *Nature Medicine* 24, no. 9 (2018): 1342-1350.

Nikolov, Stanislav, Sam Blackwell, Ruheena Mendes, Jeffrey De Fauw, Clemens Meyer, Cían Hughes, **Harry Askham** et al. "Deep learning to achieve clinically applicable segmentation of head and neck anatomy for radiotherapy." arXiv preprint arXiv:1809.04430 (2018).

Wagner, Siegfried Karl, Reena Chopra, Joseph R. Ledsam, **Harry Askham**, Sam Blackwell, Livia Faes, Konstantinos Balaskas, Trevor Back, and Pearse Andrew Keane. "Diagnostic accuracy and interobserver variability of macular disease evaluation using optical coherence tomography." *Investigative Ophthalmology & Visual Science* 60, no. 9 (2019): 1849-1849.

Quercia, Daniele, **Harry Askham**, and Jon Crowcroft. "TweetLDA: supervised topic classifi-

cation and link prediction in Twitter.” In Proceedings of the 4th Annual ACM Web Science Conference, pp. 247-250. 2012.