

## Areas of interest

Video Generation Latent space design, Data annotation, Scaling Laws, Evaluation, Controllability, Inference.  
Neural Compression Efficient image and video compression with fast decoding. Compression with neural fields.

## Work

Sep 2017 onwards **Research Scientist at Google DeepMind**, London, UK.  
Jun – Sep 2017 **Research Intern at DeepMind**, London, UK.  
Jun – Aug 2015 **Research Intern at Microsoft Research (MSR)**, Cambridge, UK.

## Education

Oct 2015 – Jul 2019 **University of Oxford**, PhD in Machine Learning.  
◦ Areas of Research: Attention, Disentangling, Deep Generative Models, Gaussian Processes  
◦ Supervised by **Yee Whye Teh**, Professor of Statistical Machine Learning of the Statistics Department.  
2011 – 2015 **Trinity College, University of Cambridge**, BA (Hons.), MMath in Mathematics.  
◦ **Part IA**: First Class Honours **Part IB**: First Class Honours **Part II**: First Class Honours **Part III(MMath)**: Distinction  
2007 – 2011 **Hampton School**, Middlesex.  
◦ **Balkan Mathematical Olympiad**: Bronze Medal (Member of UK national Team)  
◦ **British Mathematical Olympiad**: UK top 10. **British Physics Olympiad**: Gold Medal, UK top 20

## Highlight Work / Publications

See [Google Scholar](#) for full list.

- 2024 One of 20 full-time core contributors to [Veo](#), Google's most capable video generation model to date. Work focused on pre-training: data, latent space design and decoder.
- 2024 **Kim\***, Bauer\*, Theis, Schwarz, Dupont\*. **C3: High-performance and low-complexity neural compression from a single image or video**. *CVPR 2024*.
- 2023 Bauer\*, Dupont, Brock, Rosenbaum, Schwarz, **Kim\***. **Spatial Functa: Scaling Functa to ImageNet Classification and Generation**. *ICLR 2023 Workshop: Neural Fields across Fields*.
- 2022 Dupont\*, **Kim\***, Eslami, Rezende, Rosenbaum. **From data to functa: Your data point is a function and you can treat it like one**. *ICML 2022*.
- 2021 J. Xu, **H. Kim**, T. Rainforth, Y. W. Teh. **Group Equivariant Subsampling**. *Neurips 2021*.
- 2021 M. Hutchinson, C. Le Lan, S. Zaidi, E. Dupont, Y. W. Teh, **H. Kim**. **LieTransformer: Equivariant Self-Attention for Lie Groups**. *ICML 2021*.
- 2021 **H. Kim**, Papamakarios, Mnih. **The Lipschitz Constant of Self-Attention**. *ICML 2021*.
- 2019 **H. Kim** et al. **Attentive Neural Processes**. *ICLR 2019*.
- 2018 **H. Kim** and A. Mnih. **Disentangling by Factorising**. *ICML 2018*.

## Academic Services

2024 Invited Talk at **CVPR 2024 Workshop on Implicit Neural Representations for Vision**  
2023 Lead Organizer of ICLR 2023 First workshop on Neural Fields: **Neural Fields across all Fields**  
2018–2024 Reviewer at NeurIPS, CVPR, ICML, ICLR, AISTATS, UAI

## Additional Skills/Activities

Languages Korean(Native), English(Fluent), French(Advanced-C1), Spanish(Intermediate-B2), Japanese(Intermediate-N3)  
Leadership Undergraduate President of Cambridge University Korean Society(CUKS)[2012–2013]  
Sport Active football (soccer) player. Founder, captain and player of DeepMind football team **Neural Netters**. Also played with *Oxford Worcester College* and *Oxford University Korean Society*.

## Referees

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(Manager at GDM)