

Aidan Gomez

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aidangomez.ca
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Machine Intelligence + Mathematics

Foreword.

My greatest strength is my passion for learning. Exploring new topics and honing skills is something that I adore. I find my purpose in learning, extending theory, creating new techniques, and adding to the collective body of knowledge. I'm extremely privileged to have met many wonderful people who have inspired my work and passions; I owe much of myself to their kindness, compassion, and ardour.

Education.

University of Oxford (Since 2018)

Doctoral Student	Computer Science
	Student of Yarin Gal and Yee Whye Teh

University of Toronto (Class of 2018)

Honours Bachelor of Science (with Distinction)	Computer Science
	Student of Roger Grosse

Honours.

Open Philanthropy AI Fellow	2018 AI Grant Fellow
Clarendon Scholar	University College Alumni Scholar
Nvidia Best Paper Award (NeurIPS 2017)	Dean's List

Experience.

FOR.ai – Research Lead (Toronto, CA) 2017

I lead a group of researchers from around the world on machine learning research projects. Our projects are supported and supervised by members of top academic and industrial laboratories.

Google Brain – Student Researcher (London, UK) 2018

Working with Jakob Uszkoreit and Jeff Dean.

Google Brain – Research Intern (Toronto, CA) 2018

Worked with Geoff Hinton on the distillation of knowledge between Neural Networks.

University of Toronto ML Group – Research Intern (Toronto, CA) 2017

Worked with Roger Grosse on polyalphabetic cipher cracking with GANs.

Google Brain – Research Intern (Mountain View, USA) 2017

Worked under the mentorship of Łukasz Kaiser to build a model capable of solving multiple tasks simultaneously, using a single parameter space. Also worked on autoregressive translation models using separable convolutions and attention.

Experience.

University of Toronto – Teaching Assistant (Toronto, CA)	2017
Taught students algorithms, analysis, and proofs.	
Venture Media – Machine Learning Intern (Vancouver, CA)	2015
Worked under the mentorship of Alejandro Isaza to build an iOS application to perform alignment between live piano audio and sheet music on a mobile device.	
Microsoft – Computer Science Intern (Seattle, USA)	2016
Improved Microsoft's B2B products under mentorship of senior developers.	
AdGo Design (Toronto, CA)	2011
AdGo Design was a small web development company I began at about 15.	

Research.

Targeted Dropout (NeurIPS 2018 CDNNIA)
A. N. Gomez, I. Zhang, K. Swersky, Y. Gal, and G. E. Hinton Extremely simple regularization technique enabling one-shot network pruning with intimate control over sparsity patterns.
CipherGAN: Unsupervised Cipher Cracking Using Neural Networks (ICLR 2018, NeurIPS 2017 DISCML)
A. N. Gomez, S. Huang, I. Zhang, B. M. Li, O. Muhammad, and Ł. Kaiser CycleGAN-based architecture capable of cracking ciphers without paired examples.
The Reversible Residual Network: Backpropagation Without Storing Activations (NeurIPS 2017)
{A. N. Gomez, M. Ren}, R. Urtasun, and R. B. Grosse Novel architecture that enables constant activation storage requirements for arbitrary network depth in residual neural networks.
One Model To Learn Them All
Ł. Kaiser, A. N. Gomez, N. Shazeer, A. Vaswani, N. Parmar, L. Jones, and J. Uszkoreit Multi-modal model capable of solving 8 tasks at once, with a single parameter set. Demonstrates strong transfer learning and regularization on tasks with limited data.
Depthwise Separable Convolutions for Neural Machine Translation (ICLR 2018)
{Ł. Kaiser, A. N. Gomez, and F. Chollet} 2x reduction in parameters while also establishing token accuracy state-of-the-art in neural machine translation using depthwise separable convolutions.
Attention Is All You Need (NeurIPS 2017)
{A. Vaswani, N. Shazeer, N. Parmar, J. Uszkoreit, L. Jones, A. N. Gomez, Ł. Kaiser, and I. Polosukhin} Established a new BLEU state-of-the-art in neural machine translation by using exclusively attention and feed forward layers.

Academic Community.

Organiser

Workshop on Invertible Neural Networks and Normalising Flows

Reviewer

NeurIPS, ICML

Projects.

github.com/tensorflow/tensor2tensor

A. N. Gomez, Ł. Kaiser, N. Parmar, R. Sepassi, N. Shazeer, and A. Vaswani (initial authors)

Tensor2Tensor is a library for deep learning models that is well-suited for neural machine translation and includes the reference implementation of the state-of-the-art Transformer model.

github.com/for-ai/cloud

A. N. Gomez and I. Zhang

for-ai/cloud is a python module for automatically managing cloud resources such as instances, TPUs, and more.

InTune: Recurrent Neural Networks For Real-Time Music Tracking

A. N. Gomez and A. Isaza

iOS app that tracks user's live position in sheet music while playing piano using LSTMs.

Invited Talks.

Targeted Dropout

Machine Intelligence Conference (MIT Media Lab)

GDG Devfest Reading (Reading University)

Reversible Residual Networks

Toronto Machine Learning Summit

TD Bank (formerly Layer6 AI)

Nvidia

One Model To Learn Them All

CUCSC (University of Toronto)

Passion.

Companions to the Order of Malta, Oxford

Each week I am incredibly fortunate to be able to spend time having conversations with and serving food and drink to fellow Oxfordians living without shelter.

The Good Shepard Shelter Toronto

I began volunteering at the Good Shepard as a way to give back to those who needed it most. I absolutely loved it, and cannot overstate how grateful I am for having had the opportunity to serve.

Afterword.

If you've taken the time to read my resume, I am grateful and deeply humbled. I do hope you've found something of common interest and that you reach out to chat about it!

A handwritten signature in black ink, appearing to read 'Aidan Gomez', with a long horizontal flourish extending to the right.