Jonathan Smith

Curriculum Vitae

✆ *+1 (613) 854-7879*
✉ *j.jajsmith@gmail.com*
⌨ *www.github.com/jajsmith*

Experience

10/2019 - Present	**Machine Learning Scientist**, Layer 6 AI, Toronto, Canada. Led multiple teams to design and ship customer propensity and forecasting models with deep learning. Built first customer classification model in TD Bank's mobile app with 70% positive response. Drove $2 million in revenue with credit loss reduction models. Responsible for designing data pipelines and monitoring solutions. Researching model explainability for RNNs.
9/2018 - 12/2018	**Machine Learning Intern**, Layer 6 AI, Toronto, Canada. Model explainability with prototypes
5/2018 - 8/2018	**Research Assistant**, Waterloo Autonomous Vehicles Lab, Waterloo, Canada. Image segmentation with CNNs to inform SLAM feature selection.
1/2018 - 4/2018	**Software Engineer & Social Capital Fellow**, Hustle, San Francisco, USA. Developed new messaging workflows for web and mobile applications.
1/2017 - 4/2017	**Medical Device Software Developer**, Intellijoint Surgical, Waterloo, Canada. Researched novel methods of visualizing 3D navigation with AR and VR during hip surgery. Received FDA approval for software workflow development. 1 Patent.
5/2015 - 4/2016	**Software Engineer**, Interset AI (acq. Micro Focus), Ottawa, Canada. Led development and launch of stand-alone data pipelines with Flume and ran on-prem customer deployments of Hadoop and Elasticsearch systems. Conducted ad-hoc data analysis of transaction log files.
2/2012 - 8/2014	**Co-Founder & Film Producer**, Smith & West Productions, Various. Produced 30 documentary and narrative films screened online and on television in Africa, Asia, and North America

Education

2014 - 2019	**Bachelor of Computer Science**, University of Waterloo, Waterloo, Canada. *Selected Coursework:* Graphics, Machine Learning, Deep Neural Networks, Computer Security and Privacy, Operating Systems, Autonomous Mobile Robotics
2014 - 2019	**Bachelor of Business Administration**, Wilfred Laurier University, Waterloo, Canada. *Selected Coursework:* Peace and Engineering, Organizational Behaviour, Marketing Management, Financial Management, Financial Institutions, Accounting, Derivatives

Skills

- **Machine Learning**
  PyTorch, Caffe, Tensorflow. Applications of graph neural networks in biology, time-series, causality, & explainability. Computer vision: semantic segmentation. Natural language processing: text classification. Productionization and monitoring

- **Software Engineering**
  C++, Java, Python, Javascript, SQL, Spark, Kafka, Robotics, Databases, Distributed Computing (Self-hosted Hadoop, AWS, Azure), Project Management

- **Growth**
  Founder. Entrepreneur. Grown and led teams up to 50 people. Focused on hiring and retaining exceptional talent. Strong communicator and business understanding.

Publications & Patents

- Emily Cameron-Blake, Charles Breton, Paisley Sim, Helen Tatlow, Thomas Hale, Andrew Wood, **Jonathan Smith**, Julia Sawatsky, Zachary Parsons, Katherine Tyson, "Variation in the Canadian provincial and territorial responses to COVID-19," *BSG Working Paper Series*, 2021 Mar, BSG-WP-2021/039

- Liam G. McCoy*, **Jonathan Smith***, Kavya Anchuri, Isha Berry, Joanna Pineda, Vinyas Harish, Andrew T. Lam, Seung Eun Yi, Sophie Hu, COVID-19 Canada Open Data Working Group: Non-Pharmaceutical Interventions, Laura Rosella, Benjamin Fine, "Characterizing early Canadian federal, provincial, territorial and municipal nonpharmaceutical interventions in response to COVID-19: a descriptive analysis," *CMAJ Open*, August 31 2020, doi:10.9778/cmajo.20200100
- **Jonathan Smith**, Borna Ghotbi, Seungeun Yi, Mah Parsa, "Non-Pharmaceutical Intervention Discovery with Topic Modeling," in *ICML Workshop on Machine Learning for Global Health*, July 18 2020. arXiv:2009.13602
- Richard Fanson, Andre Hladio, Ran Schwarzkopf, **Jonathan Smith**, Luke Becker, "Systems and Methods for Augmented Reality Display in Navigated Surgeries," Patent granted September 20 2018. WO:/2018/165767

Projects & Other Experience

2020	**howsmyflattening.ca**, Web app to track Ontario's response to COVID-19. See here.
2019	**PeaceTech Peer Leader**, Started PeaceTech Living Learning Community, University of Waterloo.
2019	**Mobius Ray Tracer**, Wrote a graphics rendering engine in C++. See results here.
2018	**Awkward Moving Robots**, Laser-mapping, planning, and mobility framework for a two-wheeled robot running ROS. C++.
2017	**Epoch**, Led a team of three to prototype applications for a startup connecting volunteers and refugees (now epochapp.com).
2015	**Votesavvy**, Web app to inform canadian voters in the 2015 federal election.
2010-2011	**Blender 3D**, Maintainer of open-source Blender 3D Community Add-On repository and code contributor.

Interests

Art	Photography & Film Production
Adventure	Rock Climbing & Surfing

Honors & Awards

- **2020** Kaggle COVID-19 Dataset Award ($1000)
- **2019** CBC Digital Product Award - Contextual Bandit News Recommendation Algorithm ($5000)
- **2017** Peaceworks Technology Solutions Award - Peace and justice advocacy in technology ($1000)
- **2017** Hult Prize at Waterloo - Top 6 Finalist
- **2015** Good Foundation Scholarship ($1500)