

# Vadim Smolyakov

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**OBJECTIVE** To obtain a Senior Data Scientist or Data Science Manager position

## EDUCATION

**Massachusetts Institute of Technology, Cambridge, MA** 2012 – 2019  
PhD Computer Science and Artificial Intelligence  
Sensing, Learning and Inference Laboratory  
Research: Bayesian Non-Parametrics, Statistical Inference, Deep Learning  
Advisor: Prof. John Fisher

**University of Toronto, Toronto, ON** 2009 – 2011  
MAsc Electrical Engineering: Wireless Architecture  
Research: Baseband Signal Processing for Digital Communications  
Thesis: “A Fault-Tolerant Strategy for Embedded-Memory SoC OFDM Receivers”  
Advisor: Prof. Glenn Gulak

**University of Toronto, Toronto, ON** 2004 – 2009  
BAsc (Honors) Engineering Science: Electrical Engineering Major  
Research: Digital Signal Processing Algorithms and VLSI Architecture for Seizure Prediction  
Thesis: “A Study of Seizure Prediction Based on EEG Phase Synchronization”  
Senior Year GPA: 4.0/4.0

## SUMMARY

- Experience with software development for data science and machine learning at scale
- Proficient with Python, C/C++, Scala, Spark, SQL, TensorFlow, PyTorch, Keras
- 2 journal publications, 5 refereed conference papers, 2 U.S. patents
- Fast learner with excellent interpersonal, communication and leadership skills

## INDUSTRIAL EXPERIENCE

**Data Scientist II, Microsoft Inc, Redmond, WA** Nov 2019 – Present

- AI product development at scale: hyper-personalization, intelligent edge, enterprise-on-demand
- Team leadership and management: discovery data pipeline v-team
- Research and development: ML models, software architecture and data engineering
- Activities: Hackathon Lead, EnS AI community co-founder, MLADS and EnS conferences
- Technology stack: Python, C/C++, Scala, Spark, SQL, TensorFlow, Azure

**Data Science Intern, Microsoft Inc, Redmond, WA** Jun 2019 – Aug 2019

- Designed data stream classification model and user session prediction
- Technology stack: Keras, TensorFlow, VS code, Docker, Kubernetes, Kafka, Azure

- Data Science Intern, Rue Gilt Groupe, Boston, MA** Jun 2018 – Aug 2018
- Visual search, product classification, product hierarchy
  - Technology stack: AWS, TensorFlow, Spark, Python, Scala, Snowflake
- Data Science Intern, Shopify Inc., Ottawa, ON** Sep 2016 – Dec 2016
- Developed distributed NLP chat classification system using Spark
  - Technology stack: Spark, MLlib, MapReduce, Hadoop, Redshift, Tableau, Python, MySQL
- Systems Research Intern, Qualcomm Inc., Bridgewater, NJ** May 2013–Sep 2013
- Developed beam-search and beam-tracking algorithms for mm-wave wireless communication.
- Digital Baseband Design Engineer, Qualcomm Inc., Santa Clara, CA** Jan 2012 – Aug 2012
- Designed a QR decomposition core for an 802.11ac MU-MIMO receiver
- Communication Systems Engineer, MaxLinear Inc., Carlsbad, CA** Jan 2011 – June 2011
- Developed a new fault-tolerant strategy for embedded-memory SoC OFDM receivers

## RESEARCH EXPERIENCE

- Research Assistant, Prof. John Fisher, MIT** Sep 2014 – May 2019
- Developed a mini-batch Gibbs sampling algorithm for large scale inference problems
  - Topic model inference using Stochastic Variational Inference (SVI) and split-merge MCMC sampling algorithms applied to modeling driver behavior
- Research Assistant, Prof. Greg Wornell, MIT** Sep 2012 – May 2014
- Formulated the problem of ultrasound imaging as point target parameter estimation
  - Implemented ultrasound imaging models in Matlab using Field II ultrasound simulator
- Research Assistant, Prof. Glenn Gulak, University of Toronto** June 2009 – Sep 2011
- Prototyped an LTE MIMO receiver: K-Best soft-decision detector, QR channel matrix decomposition, and a CTC decoder
- Research Assistant, Prof. Roman Genov, University of Toronto** Sep 2008 – May 2009
- Developed an early seizure prediction algorithm based on phase synchronization of two neural EEG signals and verified the algorithm on human EEG data

## SELECTED COURSES

Algorithms for Inference, Machine Learning, Advances in Computer Vision, Advanced Natural Language Processing, Advanced Algorithms, Optimization Methods, Discrete Stochastic Processes, Computational Biology, Digital Communications, Digital Signal Processing, Financial Engineering, Analytics of Finance

## REFERENCES AVAILABLE UPON REQUEST