Sharan Vaswani
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Current Position

- **Mila, Université de Montréal** — Montreal, Canada
  Postdoctoral Researcher — *January 2019 -*

Education

- **University of British Columbia** — Vancouver, Canada
  Doctor of Philosophy (Computer Science) — *Sep 2015 - Dec 2018*
  - Supervisors: Mark Schmidt, Laks Lakshmanan
  - Thesis: Structured Bandits and Applications
- **University of British Columbia** — Vancouver, Canada
  Master of Science (Computer Science) — *Sep 2013 - July 2015*
  - Supervisor: Laks Lakshmanan
  - Thesis: Influence Maximization in Bandit and Adaptive settings
  - GPA: 4.32 / 4.33
- **Birla Institute of Technology and Science, Pilani** — Goa, India
  Bachelor of Engineering (Computer Science) — *Aug 2008 - July 2012*
  - GPA: 9.37 / 10

Publications

- **Optimization**
  - "Stochastic Polyak Step-size for SGD: An Adaptive Learning Rate for Fast Convergence", Nicolas Loizou, **Sharan Vaswani**, Issam Laradji, Simon Lacoste-Julien. arXiv:2002.10542, 2020.
  - "Fast and Furious Convergence: Stochastic Second Order Methods under Interpolation", Si Yi Meng*, **Sharan Vaswani***, Issam Laradji, Mark Schmidt, Simon Lacoste-Julien. International Conference on Artificial Intelligence and Statistics (AISTATS), 2020.
  - "Painless Stochastic Gradient: Interpolation, Line-Search, and Convergence Rates", **Sharan Vaswani**, Aaron Mishkin, Issam Laradji, Mark Schmidt, Gauthier Gidel, Simon Lacoste-Julien. Neural Information Processing Systems (NeurIPS), 2019.
  - "Accelerating boosting via accelerated greedy coordinate descent", Xiaomeng Ju*, Yifan Sun*, **Sharan Vaswani***, Mark Schmidt. Optimization for Machine Learning workshop, NeurIPS 2019.
  - "Fast and Faster Convergence of SGD for Over-Parameterized Models and an Accelerated Perceptron", **Sharan Vaswani**, Francis Bach, Mark Schmidt. International Conference on Artificial Intelligence and Statistics (AISTATS), 2019.
- **Sequential decision making**
  - "Old Dog Learns New Tricks: Randomized UCB for Bandit Problems", **Sharan Vaswani**, Abbas Mehrabian, Audrey Durand, Branislav Kveton. International Conference on Artificial Intelligence and Statistics (AISTATS), 2020.
  - "Combining Bayesian Optimization and Lipschitz Optimization", Mohamed Osama Ahmed, **Sharan Vaswani**, Mark Schmidt. European Conference on Machine Learning (ECML) Journal Track, 2019.

* Equal contribution.

- "Garbage In, Reward Out: Bootstrapping Exploration in Multi-Armed Bandits", Branislav Kveton, Csaba Szepesvari, **Sharan Vaswani**, Zheng Wen, Mohammad Ghavamzadeh, Tor Lattimore. International Conference on Machine Learning (ICML), 2019.
- "New Insights into Bootstrapping for Bandits", **Sharan Vaswani**, Branislav Kveton, Zheng Wen, Anup Rao, Mark Schmidt, Yasin Abbasi-Yadkori. arXiv:1805.09793, 2018.
- "Online Influence Maximization under Independent Cascade Model with Semi-Bandit Feedback", Zheng Wen, Branislav Kveton, Michal Valko, **Sharan Vaswani**. Neural Information Processing Systems (NIPS), 2017.
- "Model-Independent Online Learning for Influence Maximization", **Sharan Vaswani**, Branislav Kveton, Zheng Wen, Mohammad Ghavamzadeh, Laks Lakshmanan, Mark Schmidt. International Conference on Machine Learning (ICML), 2017.
- "Horde of Bandits using Gaussian Markov Random Fields", **Sharan Vaswani**, Mark Schmidt, Laks Lakshmanan. International Conference on Artificial Intelligence and Statistics (AISTATS), 2017. **(Oral presentation)**
- "Influence Maximization with Bandits", **Sharan Vaswani**, Laks Lakshmanan, Mark Schmidt. Networks in Social and Information Sciences workshop, NIPS, 2015.

- **Social Networks**
  - "Adaptive Influence Maximization in Social Networks: Why Commit when You can Adapt?", **Sharan Vaswani**, Laks V.S. Lakshmanan. arXiv:1604.08171, 2016.
  - "Modeling Non-Progressive Phenomena for Influence Propagation", Vincent Yun Lou, Smriti Bhagat, Laks Lakshmanan, **Sharan Vaswani**. ACM Conference on Online Social Networks (COSN), 2014.

- **Parallel Computing**
  - "Performance Evaluation of Medical Imaging Algorithms on Intel MIC Platform", Jyotsna Khemka, Mrugesh Gajjar, **Sharan Vaswani**, Nagavijayalakshmi Vydyanathan, Rama Malladi, Vinutha V. IEEE International Conference on High Performance Computing (HiPC), 2013.
  - "Fast 3D Salient Region Detection in Medical Images using GPUs", Thota, Rahul, **Sharan Vaswani**, Amit Kale, Nagavijayalakshmi Vydyanathan. Machine Intelligence and Signal Processing. Springer India, 2016.
  - "Fast 3D Structure Localization in Medical Volumes using CUDA-enabled GPUs", **Sharan Vaswani**, Rahul Thota, Nagavijayalakshmi Vydyanathan, Amit Kale. IEEE International Conference on Parallel, Distributed and Grid Computing, 2012. **(Best paper award)**

Teaching & Supervision

- Teaching assistant:
  - Algorithms (2011), Theory of computation (2013), Computational optimization (2014), Artificial intelligence (2014).
  - Undergraduate Machine learning (2015, 2017, 2018).
  - Graduate Machine learning (2016, 2017).

- Students supervised:
  - Si Yi Meng (MSc, University of British Columbia).
  - Aaron Mishkin (MSc, University of British Columbia).

Service

- Conference reviewer: AISTATS'19 - '20, ICLR'18-'20, ICML'17-'20, JMLR, IEEE TNNLS, NeurIPS'17-'19, New In ML workshop (NeurIPS'19).
- Volunteer in the UBC Computer Science Graduate Admissions committee for 2016-2017, 2017-2018.
- Student representative in the UBC Computer Science Faculty Recruiting committee for 2015-2016.
- Conference volunteer for NIPS'16.
- Co-organizer of reading groups at UBC: Machine learning (2018), Deep learning (2015).
- Conference sub-reviewer for SIGMOD'18, AAAI'17,'18, WWW'17, SDM'15,'17, KDD'16,'17, ICDM'14.

Awards

- Postdoctoral Scholarship awarded by The Institute for Data Valorization (IVADO) (2019 - 2021).
- Four Year Doctoral Fellowship awarded by the University of British Columbia (2015 - 2018).
- Merit Scholarship awarded by the Birla Institute of Technology and Science, Pilani (2008-2010).
- Travel award for AISTATS 2017, ICML 2017-2019, NeurIPS 2017, 2019.
- Top 50% of highest scoring reviewers for NeurIPS 2018, 2019.

Employment

- **Inria Paris** — Paris, France
  Intern — *May 2018 - July, 2018*
- **Apple** — Seattle, USA
  Intern — *June 2017 - August, 2017*
- **Limespot** — Vancouver, Canada
  Machine Learning Consultant — *March - May 2017; Sept, 2017 - Oct, 2017*
- **Adobe Research** — San Jose, USA
  Data Scientist Intern — *Aug 2016 - Oct 2016*
- **University of British Columbia** — Vancouver, Canada
  Teaching Assistant — *Sep 2013 - Dec 2018*
- **Siemens Corporate Research and Technologies** — Bangalore, India
  Research Engineer, Parallel Systems — *July 2012 - June 2013*
- **Siemens Corporate Research and Technologies** — Bangalore, India
  Research Intern, Parallel Systems — *January 2012 - June 2012*
- **Birla Institute of Technology and Science, Pilani** — Goa, India
  Teaching Assistant — *Aug 2012 - Dec 2012*
- **Indira Gandhi Centre for Atomic Research** — Kalpakkam, India
  Intern — *May 2010 - July 2010*

Patents

- "Influence Maximization Determination in a Social Network System", **Sharan Vaswani**, Branislav Kveton, Zheng Wen, Mohammad Ghavamzadeh. US Patent Application, 2018.

Talks

- "Painless Stochastic Gradient: Interpolation, Line-Search, and Convergence Rates"
  - Huawei Research, Montreal (October 2019).

- Mila, Montreal (August 2019).
- Element AI, Montreal (July 2019).
- Google Brain, Montreal (July 2019).

- "Influence Maximization with Bandits", UBC-Element AI workshop, August, 2018.
- "New Insights into Bootstrapping for Bandits", Inria Paris, May 2018.
- "Model-Independent Online Learning for Influence Maximization", International Conference on Machine Learning, 2017.
- "Horde of Bandits using Gaussian Markov Random Fields", International Conference on Artificial Intelligence and Statistics, 2017.
- "Modeling Non-Progressive Phenomena for Influence Propagation" Conference on Online Social Networks, 2014.
- "Fast 3D Structure Localization in Medical Volumes using CUDA-enabled GPUs", International Conference on Parallel, Distributed and Grid Computing, 2012.

References

- Mark Schmidt (schmidtm@cs.ubc.ca), Associate Professor, University of British Columbia.
- Laks V.S Lakshmanan (laks@cs.ubc.ca), Professor, University of British Columbia.
- Branislav Kveton (bkveton@google.com), Research Scientist, Google Research.
- Simon Lacoste-Julien (slacoste@iro.umontreal.ca), Associate Professor, Université de Montréal.
- Francis Bach (francis.bach@inria.fr), Professor, Inria, Ecole Normale Supérieure.