

# Peyman Bateni

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## Summary

Machine learning researcher with a history of academic and entrepreneurial excellence.

## Education

- 2019-2021 **MSc., Computer Science**, *University of British Columbia*, GPA: **93.3%**.
- ML/CV specialization, research focus on meta-learning, supervised by Dr. Frank Wood
  - Lead student researcher on UBC's DARPA-backed "Learning with Less Labels" program
  - **Relevant Coursework:** Machine Learning (CPSC 540 - 98%), Computational Linguistics (CPSC 503 - 97%), Multi-modal Learning with Vision, Language and Sound (CPSC 532S - 96%), Visual AI (CPSC 532R - 97%), ML & Signals (CPSC 554X - 90%), Graduate Directed Studies in NLP (CPSC 548 - 100%)
- 2016-2019 **BSc., Computer Science**, *University of British Columbia*, GPA: **90.2%**.
- Undertook directed studies on database indexing supervised by Dr. Laks V.S. Lakshmanan
  - **Awards:** Trek Excellence Award (top 5%), Dean of Science Scholarship, Capstone/NVD Best Design Award, Science Scholar, Dean's Honour List, graduated with Distinction
  - **Relevant Coursework:** Computer Vision (CPSC 425 - 93%), Machine Learning and Data Mining (CPSC 340 - 91%), Intelligent Systems (CPSC 422 - 90%), Advanced Algorithms (CPSC 420 - 91%), Intro to AI (CPSC 322 - 95%), Intermediate Algorithms (CPSC 320 - 93%), Linear Algebra (MATH 221 - 91%)
- 2020 **General Stream Accelerator (via Inverted AI)**, *Creative Destruction Lab*.
- 2018 **Next 36 Founder Development**, *Next Canada*.
- Selective entrepreneurship program (3% acceptance rate) providing mentorship by top business leaders, seed-stage capital to start a new venture, and training by faculty from Harvard Business School, Sloan School of Management and Rotman School of Business

## Publications

Google  
Scholar

[scholar.google.com/citations?user=zShEe8wAAAAJ&hl=en](https://scholar.google.com/citations?user=zShEe8wAAAAJ&hl=en)

- 2020 **Improving Few-Shot Visual Classification with Unlabelled Examples.**  
Peyman Bateni\*, Jarred Barber\*, Jan-Willem van de Meent, Frank Wood  
Currently under review at the Ninth International Conference on Learning Representations (ICLR) 2020 | [ArXiv](#) | [OpenReview](#)
- 2020 **Improved Few-Shot Visual Classification.**  
Peyman Bateni, Raghav Goyal, Vaden Masrani, Frank Wood, Leonid Sigal  
Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2020, pp. 14493-14502 | [Paper](#) | [ArXiv](#) | [Code](#) | [Video](#)
- 2020 **Neural RST-based Evaluation of Discourse Coherence.**  
Grigori Guz\*, Peyman Bateni\*, Darius Muglich, Giuseppe Carenini  
Accepted and will be published at the 1st Conference of the Asia-Pacific Chapter of the Association for Computational Linguistics (AACL) and the 10th International Joint Conference on Natural Language Processing (IJCNLP), 2020 | [ArXiv](#) | [Code](#) | [Video](#)

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## Professional Experience

- Sept 2019 - **Research Engineer - Autonomous Vehicles, Inverted AI**, Vancouver, Canada.  
Now
  - Lead computer vision research; developed rotational augmentation schemes that improve out-of-domain object detection accuracy on fixed intersection fish-eye cameras by 300%
  - Worked on adversarial software-driven proprietary methods for image-based rain removal
- May 2019- **NSERC USRA Research Fellow, UBC Computer Vision Lab**, Vancouver, Canada.
- August 2019
  - Worked on few-shot image classification methods, exploring a range of approaches ranging from hierarchical model-agnostic meta-learning, and semi-supervised attend-infer-repeat, to Graph-CNN label propagation, co-supervised by Dr. Leonid Sigal and Dr. Frank Wood
- May 2017 - **Software Engineer, Novarc Technologies**, Vancouver, Canada.
- April 2018
  - Developed SWR multi-threaded real-time logging module with multi-attribute handling and async report generation, reducing logging latency by 10% and troubleshooting by 4x
  - Designed Proof-of-Concept ASP.NET prototype for SWR monitoring featuring async log retrieval and data visualization, allowing offsite near real-time monitoring of welding

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## Entrepreneurial Experience

- Sept 2018 - **Co-Founder, Managing Director, A+ Expert**, Vancouver, Canada.
- Aug 2019
  - Managed a high-quality affordable educational services firm, tutoring K-12, 1st and 2nd year university students, achieving 20% weekly growth, reaching \$5k+ in monthly revenue
  - Oversaw business operations such as recruiting, client relations, and marketing; developed A+ Dashboard, internal tool that reduced costs by 60%, and increased margins by 25%
- Sept 2018 - **Co-Founder, Research Lead, Beam Engage**, Vancouver, Canada.
- Aug 2019
  - Researched VAEs/GANs for automated post generation, managing development of our pilot product for conditional visual ranking of images based on the user specified caption
  - Developed digital funnels with many UI iterations, increasing lead conversion rate by 35%
- May 2018 - **Co-Founder, Technical Lead, Cleeck**, Toronto, Canada.
- Aug 2018
  - Oversaw product development from ideation/prototyping to implementation/deployment
  - Researched/developed Cleeck SmartSearch in collaboration with Dr. Lakshmanan of UBC
  - Created data-driven marketing strategies, adding 50+ providers & 250+ users in 8 weeks
  - Spearheaded strategic partnerships with salons and beauty schools in Toronto/Vancouver
- May 2015 - **Founder, Lead Developer, Lol Labs**, Vancouver, Canada.
- Apr 2017
  - Designed, developed and marketed two Android mini-games, achieving 15,000+ downloads
  - Deployed notification-based game reward system, increasing daily engagement by 25%+

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## Volunteer Experience

- May 2018 - **Data Science Team Member, STEM Fellowship**, Vancouver, Canada.
- Aug 2018
  - Developed data analysis workshops using R and Python for SF's Big Data Challenge
  - Recruited technical mentors; advised team on student engagement and community growth
- May 2019- **Co-Founder, CTO/COO, OTODEA Tutoring**, Vancouver, Canada.
- August 2019
  - Started student-volunteer tutoring organization, providing volunteer tutoring in district 45
  - As CTO, oversaw the development of OTODEA's student-tutor matching application
  - As COO, implemented growth strategies reaching 20+ students in the first month of operations and structured transition of the firm into ototutor.com, a for-profit Vancouver-based educational firm, employing 20+ instructors and providing affordable tutoring services to 200+ K-12 students

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## Select Projects

- 2020 **COVID-19 Detection via Chest X-Rays with Few Training Examples.**
- Led UBC PLAI group's efforts on visual learning of COVID-19 testing via Chest X-Rays
  - Developed adaptive method for COVID-19 diagnosis (70% accuracy with only 80 labels)
  - Method was never released publicly as better performance was obtained at UWaterloo
- 2018-2019 **UBC Cupshare - Mobile app for borrowing reusable cups.**
- Managed team of 4 software engineers and 1 mechanical engineer to develop Cupshare
  - Developed a modularized double-scan design, removing the need for hardware-installed bins, reducing production costs by 10x, allowing for immediate deployment of the prototype
  - Led integration talks with UBC Mugshare initiative for incorporating our platform

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## Extra-Curricular Activities

- Sports Basketball/Soccer Intramurals, Ping Pong (casual/semi-competitive player), Tennis (recently started), Swimming (competed regionally in grades 3-5) & Mountaineering
- Leadership Debate (ranked 1st and 3rd in two weekly UBC friendly tournaments), Community Support (organizing social initiatives, providing career advice) & Academic Mentoring
- Games Rubix-Cube Solver (under 1-minute), Risk "Master" (ranked top 2% globally), Chess
- Music Guitar (played professionally for 5 years (grade 7 band), casually from grade 10)
- Competitions Certificate of Distinction in Waterloo Avogadro Exam (2015), Student Honour Roll in Waterloo Hypatia Math Contest (2015), Ranked Top 1% in Michael Smith Science Challenge (2014), Student Honour Roll in the Canadian Intermediate Math Contest (2013), School Medal at Waterloo Pascal Math Contest (2012)

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## Skills

Proficient | *Familiar*

- Programming Python, Java, C#, Django | *C++, HTML, CSS, JavaScript, SQL, Firebase, Unity*
- ML/CV PyTorch, Pyro, Tensorflow | *Julia, Octave, Keras, MATLAB, R, OpenCV*
- Research Deep Learning, Computer Vision | *Probabilistic Machine Learning, Robotics, NLP*
- Management Agile Development, Scrum, Kanban, JIRA, Confluence, BitBucket, Github