

Amin Shabani

Machine Learning Researcher

RBC Borealis, Vancouver
BC, Canada

Contact

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<https://aminshabani.github.io>

Education

- ◇ Ph.D. in **Computing Science** Sep 2019 - Aug 2025
Simon Fraser University, BC, Canada
- ◇ M.S. in **Electrical and Computer Engineering** Sep 2017 - Aug 2019
Seoul National University, Seoul, Korea
- ◇ B.S. in **Computer Science** Oct 2012 - Aug 2017
Sharif University of Technology, Tehran, Iran

Work Experience

- ◇ RBC Borealis, Apr 2024 - Present
Machine Learning Researcher,
Contributing to research and development of machine learning models for real-world applications in finance.
- ◇ Adobe, Jun 2023 - Nov 2023
Research Scientist/Engineer Intern,
Worked on a *new method* for automatically generating layout designs.
- ◇ Borealis AI (RBC Borealis), Jan 2022 - May 2022
Machine Learning Research Intern,
Worked on *Iterative Multi-scale Refining Transformers* for Time Series Forecasting
- ◇ Faraadid Company, Feb 2017 - Aug 2017
Research and Development Engineer,
Worked on finding online methods for object detection, considering the trade-off between speed and accuracy.

Publications and Preprints

- ◇ Ye Yuan, **Amin Shabani**, Siqi Liu, “*Embedding-based Context-aware Reranker*,” International Conference on Learning Representations (**ICLR**), 2026.
- ◇ Ye Yuan, **Amin Shabani**, Siqi Liu, “*FACTS: Table Summarization via Offline Template Generation with Agentic Workflows*,” NeurIPS workshop on Generative AI in Finance (**NeurIPS Workshop**), 2025.
- ◇ **Amin Shabani**, Zhaowen Wang, Difan Liu, Nanxuan Zhao, Jimei Yang, Yasutaka Furukawa “*Visual Layout Composer: Image-Vector Dual Diffusion Model for Design Layout Generation*,” Conference on Computer Vision and Pattern Recognition (**CVPR**), 2024.
- ◇ Sepidehsadat Hosseini, **Amin Shabani**, Yasutaka Furukawa, “*PuzzleFusion: Unleashing the Power of Diffusion Models for Spatial Puzzle Solving*,” Thirty-seventh Conference on Neural Information Processing Systems (**NeurIPS**), 2023. (Spotlight)
- ◇ **Amin Shabani**, Sepidehsadat Hosseini, Yasutaka Furukawa, “*HouseDiffusion: Vector Floorplan Generation via a Diffusion Model with Discrete and Continuous Denoising*,” Conference on Computer Vision and Pattern Recognition (**CVPR**), 2023.
- ◇ **Amin Shabani**, Amir Abdi, Lili Meng, and Tristan Sylvain, “*Scaleformer: Iterative Multi-scale Refining Transformers for Time Series Forecasting*,” International Conference on Learning Representations (**ICLR**), 2023.

- ◇ Weilian Song, Mahsa Maleki, **Amin Shabani**, Yasutaka Furukawa, “*Vectorizing Building Blueprints*,” Proc. 16th Asian Conference on Computer Vision (**ACCV**), 2022.
- ◇ **Amin Shabani**, Weilian Song, Yasutaka Furukawa, Makoto Odamaki, Hirochika Fujiki, “*Extreme Structure from Motion for Indoor Panoramas without Visual Overlaps*,” Proc. International Conference on Computer Vision (**ICCV**), 2021.
- ◇ **Mohammad Amin Shabani**, Laleh Samadfam, Mohammad Amin Sadeghi, “*Local Visual Microphones: Improved Sound Extraction from Silent Video*,” Proc. British Machine Vision Conference (**BMVC**), 2017. (Spotlight)
- ◇ M. Abdolmaleki · J. P. Hutchinson · S. Gh. Ilchi · E. S. Mahmoodian · N. Matsumoto · **M. A. Shabani**, “*On uniquely k-list colorable planar graphs, graphs on surfaces, and regular graphs*,” Graphs and Combinatorics (**GCOM**), Article No s00373-018-1879-7. (Authors are ordered alphabetically)

Patents

- ◇ Zhaowen Wang, Nanxuan Zhao, Jimei Yang, Difan Liu, Mohammad Amin Shabani, “*Generating visually aware design layouts using a multi-domain diffusion neural network*”, US Patent App. 18/641,137.
- ◇ Amin Shabani, Tristan Sylvain, Lili Meng, Amir Abdi, “*Multi-scale artificial neural network and a method for operating same for time series forecasting*”, US Patent App. 18/197,197.

Presented Seminars

- ◇ M. Abdolmaleki, S. Gh. Ilchi, E.S. Mahmoodian, and M. A. Shabani, “*On decomposing complete tripartite graphs into 5-cycles*,” **IPM**, Institute for Research in Fundamental Sciences, Iran, 2017. (Authors are ordered alphabetically)

Teaching Experience

Simon Fraser University

- ◇ Teaching Assistant for Computer Vision. Fall 2023
- ◇ Teaching Assistant for Special Topics in Network. Spring 2023
- ◇ Teaching Assistant for Special Topics in Computing Systems. Spring 2023
- ◇ Teaching Assistant for Software Development Methods. Fall 2022
- ◇ Teaching Assistant for Introduction to Programming. Fall 2021
- ◇ Teaching Assistant for Data Structures and Programming. Summer 2021
- ◇ Teaching Assistant for Communication Strategies. Spring 2021
- ◇ Teaching Assistant for Computer Vision. Fall 2020
- ◇ Teaching Assistant for Introduction to Programming. Summer 2020
- ◇ Teaching Assistant for Data Structures and Programming. Summer 2020

Sharif University Of Technology

- ◇ Teaching Assistant for Image Processing. Fall 2016
- ◇ Teaching Assistant for Data Structures. Fall 2014
- ◇ Teaching Assistant for Discrete Mathematics. Spring 2014
- ◇ Teaching Assistant for Computer Programming. Fall 2013

NODET High Schools

- ◇ Teaching Informatics Olympiad courses, NODET High Schools. 2011 - 2017
- ◇ Teaching C++ Programming, NODET High Schools. 2011 - 2017

Honors and Awards

- ◇ 1st Place Winner, Financial Agentic Retrieval Grand Challenge ([FinAgentBench](#)), AI for Finance Symposium '25 Fall 2025
- ◇ Helmut & Hugo Eppich Family Grad Scholarship, SFU Spring 2023
- ◇ SFU Computing Science Graduate Fellowship Fall 2020 - 2022
- ◇ Helmut & Hugo Eppich Family Grad Scholarship, SFU Spring 2021
- ◇ Graduate Scholarship for Excellent Foreign Students, SNU Sep 2017 - Sep 2019
- ◇ SFU Graduate Fellowship Fall 2019 - 2022
- ◇ SFU Research Assistant Scholarship Spring 2020 - Spring 2023
- ◇ SFU Teaching Assistant Scholarship Summer 2020 - Fall 2022
- ◇ Bronze Medal in the 20th Iranian National Olympiad in Informatics (INOI), Tehran, Iran. Jul 2010

Extracurricular Activities

- ◇ Reviewer for CVPR2026, ECCV2024, NeurIPS2023, SIGGRAPH2023, ICCV2023, CVPR2023, ACCV2022, ICCV2021
- ◇ **Hamband**, Student council of department of mathematics, SUT. 2014 - 2016
- ◇ **Algorithms and Problem Solving Laboratory**, under supervision of Prof. [Yahya Tabesh](#), Sharif University of Technology, Tehran, Iran. 2015 - 2016

Technical Skills

- ◇ *Languages & Frameworks*: Python, C++(STL), PyTorch, TensorFlow, Matlab