# Mohammad Amin Shabani

**School Address**
Department of Computing Science
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**Research Interests**
⋄ Computer Vision    ⋄ Machine Learning    ⋄ Graph Theory

**Education**

⋄ Ph.D. in **Computing Science**                                   Sep 2019 - Present
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

**Selected Publications**

⋄ Weilian Song, Mahsa Maleki, **Mohammad Amin Shabani**, Yasutaka Furukawa, *"Vectorizing Building Blueprints,"* Proc. 16th Asian Conference on Computer Vision (**ACCV**), 2022.

⋄ **Mohammad 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)

**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)

**Academic Experience**

⋄ **Gruvi Lab**,                                                          Sep 2019 - Present
Under the supervision of Prof. Yasutaka Furukawa, Simon Fraser University, BC, Canada.
Working on extreme structure from motion for indoor panoramas and 3D reconstruction.

⋄ **Computer Vision Laboratory**,                          Sep 2017 - Aug 2019
Under the supervision of Prof. Kyoung Mu Lee, Seoul National University, Seoul, Korea.
Worked on different topics in computer vision and deep learning such as small object detection, multiple pedestrian tracking, metric learning, and knowledge distillation.

⋄ Comput Vision and Image processing,                          2015 - 2017
Under the supervision of Dr. Sadeghi and Dr. Kamali Tabrizi, Sharif University of Technology, Tehran, Iran.
We studied local vibration patterns at different image locations. Our proposed method improved the state-of-the-art sound quality which can be extracted from a silent video.

◇ Graph Theory, 2014 - 2017
Under the supervision of Prof. Mahmoodian, Sharif University of Technology, Tehran, Iran.
Worked on decomposing complete tripartite graphs into 5-cycles and uniquely k-list colorable graphs.

**Work Experience**

◇ Borealis AI, Jan 2022 - May 2022
Machine Learning Research Intern,
Worked on Iterative Multi-scale Refining Transformers for Time Series Forecasting
https://arxiv.org/abs/2206.04038

◇ Faraadid Company, Feb 2017 - Aug 2017
Research and Development Engineer,
Worked on finding online methods for car license plates detection. Considering the trade-off between the speed and accuracy, we mainly focused on optimizing different methods for our target datasets.

**Teaching Experience**

◇ Teaching Assistant for **Data Structure**. Fall 2014
◇ Teaching Assistant for **Image Processing**. Fall 2016
◇ Teaching Assistant for **Discrete Mathematics**. Spring 2014
◇ Teaching Assistant for **Computer Programming**. Fall 2013
◇ Teaching **Informatics Olympiad** courses, NODET HighSchools. 2011 - 2017
◇ Teaching **C++ Programming**, NODET HighSchools. 2011 - 2017

**Honors and Awards**

◇ **Graduate Scholarship for Excellent Foreign Students, SNU** Sep 2017 - Sep 2019
◇ **Helmut & Hugo Eppich Family Grad Scholarship, SFU** Spring 2021
◇ **SFU Computing Science Graduate Fellowship** Fall 2020 - 2022
◇ **SFU Graduate Fellowship** Fall 2019 - 2022
◇ **SFU Research Assistant Scholarship** Spring 2020 - Sptring 2023
◇ **SFU Teaching Assistant Scholarship** Summer 2020 - Fall 2022
◇ **Bronze Medal** in the 20th Iranian National Olympiad in Informatics (INOI), Tehran, Iran. Jul 2010.
◇ Selected as a member of National Elites Foundation, Iran. Aug 2010.

**Extracurricular Activities**

◇ **YSC**, Young Scholar Club, Tehran, Iran. Jul 2010 - Sep 2011
◇ **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