
Sepehr Samavi

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(Last updated July 27, 2023)

EDUCATION

- Ph.D., University of Toronto** *since 01/2021*
Institute for Aerospace Studies, Toronto, Canada
Advisors: Angela Schoellig ([site](#)), Florian Shkurti ([site](#))
Committee: Timothy D. Barfoot, Jonathan S. Kelly
- M.A.Sc., University of Toronto** *11/2021*
Institute for Aerospace Studies, Toronto, Canada
Emphasis in Robotics
Title: Accounting for Unpredictability in Autonomous Driving Behaviour [[pdf](#)]
Advisor: Angela Schoellig
- B.A.Sc. in Engineering Science (with Honours), University of Toronto** *06/2018*
Engineering Science, Robotics Engineering Major
Division of Engineering Science, Toronto, Canada
Thesis Title: Lane Detection for an Autonomous Vehicle [[pdf](#)]
Thesis Advisor: Angela Schoellig

AFFILIATIONS

- Vector Institute for Artificial Intelligence**
Graduate Student Researcher *since 01/2020*
- University of Toronto Robotics Institute**
Graduate Student Researcher *since 06/2019*
- aUToronto, U of T's self-driving car team**
Deputy Lead *09/2018 - 09/2019*
Autonomy Software Member *08/2017 - 09/2019*

AWARDS AND HONOURS

- Alexander Graham Bell Canada Graduate Scholarship, \$105K** *01/2021 - 12/2023*
Natural Sciences and Engineering Research Council, Government of Canada
Scholarship for three years of Ph.D. research
- Ontario Graduate Scholarship, \$10K** *09/2019 - 04/2020*
Government of Ontario, *Scholarship for M.A.Sc. research*
- Vector Scholarship in Artificial Intelligence, \$17.5K** *09/2018 - 09/2019*
Vector Institute, *Scholarship for M.A.Sc. research*
- Exceptional Opportunities Award, \$3K** *06/2014 - 08/2014*
University of Toronto, *Funding for undergraduate research at Harvard Medical School*

President's Entrance Scholarship, \$2K University of Toronto, <i>Entrance scholarship for undergraduate studies</i>	<i>09/2013</i>
Best Poster Presentation International Conference on Robots and Vision (CRV) <i>as the presenting author for publication [C2]</i>	<i>06/2019</i>
First Place in 2019 SAE AutoDrive Challenge GM and SAE International, Second year of three-year competition <i>as a deputy lead of the University of Toronto team, aUToronto</i>	<i>06/2019</i>
First Place in 2018 SAE AutoDrive Challenge GM and SAE International, First year of three-year competition <i>as a member of the University of Toronto team, aUToronto</i>	<i>06/2018</i>

PUBLICATIONS

In Press - Conference Proceedings

- [I1] **Sepehr Samavi**, Florian Shkurti, and Angela P. Schoellig. Does Unpredictability Influence Driving Behavior? In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, in press, 2023. [\[pdf\]](#)

Peer Reviewed - Journal Publications

- [J2] Keenan Burnett, Jingxing Qian, Xintong Du, Linqiao Liu, David J. Yoon, Tianchang Shen, Susan Sun, **Sepehr Samavi**, Michael J. Sorocky, Mollie Bianchi, Kaicheng Zhang, Arkady Arkhangorodsky, Quinlan Sykora, Shichen Lu, Yizhou Huang, Angela P. Schoellig, and Timothy D. Barfoot. Zeus: A system description of the two-time winner of the collegiate SAE AutoDrive competition. *Journal of Field Robotics*, 1(28), 2020. [\[pdf\]](#)

Peer Reviewed - Conference Proceedings

- [C1] Keenan Burnett, Andreas Schimpe, **Sepehr Samavi**, Mona Gridseth, Chengzhi Winston Liu, Qiyang Li, Zachary Kroeze, and Angela P. Schoellig. Building a Winning Self-Driving Car in Six Months. In *IEEE International Conference on Robotics and Automation (ICRA)*, pages 9583–9589, May 2019. [\[url\]](#)
- [C2] Keenan Burnett, **Sepehr Samavi**, Steven L Waslander, Timothy D Barfoot, and Angela P Schoellig. aUToTrack: a Lightweight Object Detection and Tracking System for the SAE AutoDrive Challenge. In *International Conference on Robots and Vision (CRV)*, May 2019. **Best Poster Presentation Award.** [\[pdf\]](#)

EMPLOYMENT HISTORY

University of Toronto , Toronto, Canada Division of Engineering Science Teaching Assistant, <i>Artificial Intelligence ROB311</i>	<i>01/2021 - present</i>
Magna International , Greater Toronto Area, Canada Magna Electronics Vision Centre Algorithms Research Intern, <i>Perception for Magna Automated Parking Project</i>	<i>05/2016 - 07/2017</i>
Harvard Medical School , Boston, USA Tearney Lab, Wellman Center for Photomedicine Undergraduate Research Intern, <i>Prototyping for gastrointestinal tethered capsule retraction device</i>	<i>06/2014 - 08/2014</i>

STUDENT ADVISING

Undergraduate Thesis

James Han [\[site\]](#), Engineering Science, University of Toronto

2022-2023

Undergraduate Summer Students

Xinyuan (Sam) Qiao [\[site\]](#), Engineering Science, University of Toronto

Summer 2021

Ruichen (Spencer) Li [\[site\]](#), Electrical and Computer Engineering, University of Toronto *Summer 2023*

INVITED TALKS

University of Toronto Robotics Institute 2021 Autonomous Vehicles Workshop *06/2021*

Student talk “Accounting for Unpredictability in Autonomous Driving Behaviour” [\[video\]](#)

MEDIA

AI: Hype vs. Reality. S1E1 AI That Drives: Self-Driving Cars, A popular science podcast and video by Dell Technologies about emerging AI technologies. 09/2019. [\[audio\]](#) [\[video\]](#) [\[website\]](#)

University of Toronto Engineering News, A news article announcing recipients of the Vector Institute Graduate Scholarship in AI. 12/2018. [\[url\]](#)

SKILLS AND LANGUAGES

Programming and Scripting: Python, C/C++, Java, MATLAB, bash

Scientific Computing: Un*x (macOS, Linux), Windows, Slurm

Languages: English (native), Persian (native), French (fluent)

OUTREACH AND VOLUNTEERING

STEM outreach & live demonstrations

09/2018 - present

I often volunteer to show live demonstrations of our robots to visitors, who have included government officials, representatives from industry, journalists, professors and their research groups, elementary and high-school students (e.g. 40 students aged 10-12 years and 30 high school students in 11/2019), as well as undergraduate and graduate students.

Drummer, University of Toronto Institute for Aerospace Studies Band

11/2018 - present

Community Volunteer, Sunnybrook Hospital, Toronto (100 hours)

07/2012