MICHAEL RABINOVICH

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Summary

VP Advanced Technology at Common Ground AI. An experienced multi-discipline researcher and developer, with background in applied and theoretical mathematics (mathematical modeling, numerical optimization and differential geometry), geometry processing, computer graphics, computer vision, as well as past experience in computer security research, low level development, and designing large scale systems.

Education

2016 – Feb 2020	ETH Zurich, Switzerland **PhD in Computer Science** Supervised by Prof. Olga Sorkine-Hornung. Thesis title: Modeling Developable Surfaces with Discrete Orthogonal Geodesic Nets. Winner of the ETH Medal for outstanding thesis.
2014 – 2016	ETH Zurich, Switzerland **MSc in Computer Science** Thesis title: Scalable Locally Injective Mappings. Supervised by Prof. Olga Sorkine-Hornung.
2012 – 2014	The Open University of Israel, Israel **BSc in Mathematics**

Publications

[1] Shape approximation by developable wrapping. Alexandra Ion, Michael Rabinovich, Philipp Herholz and Olga Sorkine-Hornung. ACM Transactions on Graphics, Vol. 39(6), 2020 (*ACM SIGGRAPH ASIA 2020 issue*).

[2] Modeling curved folding with freeform deformations. Michael Rabinovich, Tim Hoffmann and Olga Sorkine-Hornung. ACM Transactions on Graphics, Vol. 38(6), 2019 (*ACM SIGGRAPH ASIA 2019 issue*).

[3] The shape space of discrete orthogonal geodesic nets. Michael Rabinovich, Tim Hoffmann and Olga Sorkine-Hornung. ACM Transactions on Graphics, Vol. 37(8), 2018 (*ACM SIGGRAPH ASIA 2018 issue*).

[4] Discrete geodesic nets for modeling developable surfaces. Michael Rabinovich, Tim Hoffmann and Olga Sorkine-Hornung. ACM Transactions on Graphics, Vol. 37(2), 2018.

[5] Scalable locally injective mappings. Michael Rabinovich, Roi Poranne, Daniele Panozzo and Olga Sorkine-Hornung. ACM Transactions on Graphics, Vol. 36(2), 2017.

Honors and Awards

2020	Won the ETH Medal for outstanding doctoral thesis.
2019	Accepted to the SIGGRAPH Doctoral Consortium 2019. Selected participant as 1 of the 8 best soon-to-be graduating PhD students in computer graphics.
2014	ETH master excellence scholarship, ETH Zurich.
2014	Deans list of excellence, The Open University of Israel.

2014	”Young Weizmann Scholars” scholarship, given by The Weizmann Institute of Science to outstanding Israelis undergraduate students. The only mathematics student chosen that year.
2011	Unit Excellence Award given for innovative technology (Israel Defense Forces, 8200 unit).

Selected talks

11.2019	ACM SIGGRAPH ASIA, Brisbane, Australia.
09.2019	International Geometry Workshop, Strobl, Austria.
08.2019	Invited talks at MIT and EPFL.
07.2019	SIAM Conference on Applied Algebric Geometry, Bern, Switzerland. Invited speaker for a minisymposium on ”Geometric design for fabrication”.
07.2019	Symposium on Geometry Processing, Milan, Italy. Invited to give a graduate school course on Nets in Discrete Differential Geometry.
12.2018	ACM SIGGRAPH ASIA, Tokyo, Japan.
08.2018	ACM SIGGRAPH, Vancouver, Canada.
09.2017	International Geometry Workshop, Obergurgl, Austria.
08.2017	Invited talks at Stanford, Caltech, USC and Pixar Research.
08.2017	ACM SIGGRAPH, Los Angeles, United States.

Reviewer

Journals:	ACM Transactions on Graphics, Computer Graphics Forum, Computer Aided Geometric Design, Computers and Graphics
Conferences:	ACM SIGGRAPH, ACM SIGGRAPH ASIA, EUROGRAPHICS, EUROGRAPHICS/ACM SIGGRAPH Symposium on Geometry Processing

Other work experience

2020 – present	VP Advanced Technologies, Common Ground AI Founded and directs the computer graphics and 3D vision applied research group (currently 9 people in 2 teams) in an early stage startup, working on 3D computer vision and photorealistic rendering. Joined the company at its foundation and was fundamental in its growth and raising $19M in less than a year.
2012 – 2014	Security Researcher, NSO Technologies Discovering and exploiting security holes in mobile devices on various OS and architectures.
2011 – 2012	Project Manager and Technical Leader, Israeli Defense Forces, 8200 Unit Technical leader in the fields of designing and implementing windows kernel drivers and debugging low-level components. Creating and delivering advanced workshops on Windows Internals and Windows Kernel Development
2010 – 2011	R&D Leader, Israeli Defense Forces, 8200 Unit Managing a team of three experienced developers. Designing and developing large-scale systems.
2008-2010	Software engineer, Israeli Defense Forces, 8200 Unit Specializing in developing low-level components in C and C++ and implementing various network protocols.

Technical experience

- Extensive knowledge in shape modeling and geometry processing, (discrete) differential geometry, mathematical modeling and numerical optimization for visual computing.

- Expertise in 3D computer vision, with emphasise on 3D reconstruction and tracking.

- Vast knowledge in computer graphics and photorealistic rendering.

- Vulnerabilities research and reverse engineering (x86, ARM).

- Specialist in OS internals and debugging drivers and low-level components (windows/linux/iOS).

- Extensive knowledge in computer networks and various network protocols.

- Matlab for visual computing.

- Proficient in C,C++ and Python

- Teaching - Over 4 years as an assistant in Linear Algebra and Shape Modeling and Geometry Processing.

Languages

Hebrew (native), English (fluent), German (conversational).

Hobbies

Snowboarding, climbing, film enthusiast.