

ANTON MENSHOV

Research and Development Leader

CONTACT

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[linkedin.com/in/antonmenshov](https://www.linkedin.com/in/antonmenshov)

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[Full list of publications](#) (1 book chapter, 10 journal papers, 13 extended conference papers, 24 conference abstracts)

Montréal, QC, Canada

EDUCATION

Master of Science (M.Sc.),

Electrical and Computer Engineering
University of Manitoba, Winnipeg,
Canada
Sep 2011—May 2014

Bachelor's Degree (Specialist),

Engineering
Management and informatics in technical
systems

Moscow State Institute of Electronic
Engineering (Technical University),
Russia
Aug 2005—July 2010

SKILLS

Team management
Talent acquisition
Project management
(Scrum/Agile/OKR)
Proposal/grant writing
Public speaking and presentation
Strategic decision making
Marketing of high-tech software
products

PROGRAMMING (Expert)

C++ (11/14/17/20)
Python
Fortran, MATLAB, Mathcad
OpenMP/MPI
BLAS/LAPACK, Intel MKL
GitLab, CI/CD
CMake
Amazon AWS

WORK EXPERIENCE

Senior Software Engineer — Photonics Simulation

[Google / X, the moonshot factory](#), Canada / Aug 2022—present
R&D on an confidential moonshot project.

Vice President of Engineering

[CEMWorks Inc.](#), Canada / Sep 2019—Aug 2022

Leading, planning, and steering the development of commercial computational physics solutions for electronic design automation, 5G/6G telecommunications, autonomous cars, and smart cities. Architecting, high-level quality control of the core solver code (C++) and cloud-based platform (Python, Django, JavaScript, MongoDB, Amazon AWS) as a leader of a team. R&D in fast linear algebra and computational electromagnetics. Communication with potential customers and collaborators, technical reporting to authorities ([National Research Council Canada](#), [Canada Revenue Agency](#), [Innovation, Science, and Economic Development Canada](#)).

- Added **9** highly trained technical experts (Ph.D./M.Sc. in engineering/sciences, front/backend, cloud) to the team in order facilitate dynamic R&D (**100%** staff retention over 3 years).
- Principal author and company project leader of a successful national (Canada) proposal for [CELTIC/NEXT](#) project on *AI-enabled massive MIMO* (2020—2022).
- Principal author of a successful international [EURIPIDES2/PENTA](#) project [InnoStar: Innovative Systems and Automated Design for 5G/6G Connectivity and Radar Applications](#) (2022—2024).

Research and Development Expert

[CEMWorks Inc.](#), Canada / Sep 2017—Sep 2019

Core developer of a commercial fast integral-equation based solver for accurate electromagnetic modeling and signal integrity analysis (C++, Python, OpenMP/MPI) with applications to electronic design automation, telecommunications (5G/6G), and smart cities of the future.

- Principal author of successful proposal for [“Connected Vehicles and Engineered Surfaces”](#) challenge from [Innovation, Science, and Economic Development Canada](#) bringing **\$1.2M**.
- Achieved accurate simulation of an interconnect design in multilayered medium (1M unknowns, dense matrix), within 30 min and 120 GB RAM on a single node of Amazon cloud.
- Co-author of a book chapter [“New trends in analysis of electromagnetic fields in multilayered media”](#) for *New Trends in Computational Electromagnetics*.

Research Assistant

[The University of Texas at Austin](#), USA / Sep 2014—Aug 2017

Research on fast direct free-space and layered-medium integral-equation solvers in computational electromagnetics (C++/Fortran, MPI/OpenMP) deployed on the large-scale supercomputer systems (TACC Stampede, [#8 in TOP500 in June 2015](#)).

- Core contributor to the successful R&D project acknowledged by 2017 Intel Outstanding Researcher Award for “Completing high-quality research on layered-medium integral-equation methods for full-wave electromagnetic analysis of electronic packages influencing the direction of the electronic design & analysis industry” (supervision: Dr. Ali Yilmaz, Dr. Vladimir Okhmatovski).

ANTON MENSHOV

Research and Development Leader

SOFTWARE

Microsoft Visual Studio
JetBrains CLion
Expert in Microsoft Office (incl. VBA)
LaTeX
GMSH
ParaView
Blender
UNIX (Linux, FreeBSD)

MEMBERSHIPS

2019—present: Senior Member of International Union of Radio Science ([URSI](#))
2018—present: Member of The European Association on Antennas and Propagation ([EurAAP](#))
2012—present: Member of Institute of Electrical and Electronics Engineers ([IEEE](#)). Societies: Antennas and Propagation, Microwave Theory and Techniques, Electromagnetic Compatibility, Electronics Packaging, Photonics
2012—present: Member of Society for Industrial and Applied Mathematics

REVIEWER

[IEEE Journal on Multiscale and Multiphysics Computational Techniques](#) (started 2019)
[IEEE Transactions on Antennas and Propagation](#) (2018)
[IEEE Antennas and Wireless Propagation Letters](#) (2018)
[Applied Computational Electromagnetics Society](#): journal, conference (2017)
[IEEE Transactions on Microwave Theory and Techniques](#) (2017)
[Manning Publications](#) (2019—2020)

LANGUAGES

English (bilingual/full proficiency)
French (B1)
Russian (native)
Serbian (A2)

Research Assistant

[University of Manitoba](#), Canada / Aug 2011—June 2014

Research on novel integral-equation formulations for scattering and current flow modeling (C++, Mathcad), inverse problems, and fast applied linear algebra with deployment on supercomputing facilities ([Digital Research Alliance of Canada](#)).

- Successful MITACS-funded project “Novel Boundary Element Method for Inductance Extraction in Cables of Complex Cross-Section” joint with [Manitoba Hydro](#).

Financial Analyst

[MDM Bank](#), Moscow, Russia / Aug 2008—Nov 2010

Development of the automatic management and reporting system (C++, SQL, VBA) in the department of analytics and methodology for forecasts & operation of decision-making support systems. Preparation of managerial reports and communication with regional branches

Affiliate Manager

[Parallels Inc.](#), Moscow, Russia / Mar 2007—Aug 2008

Managed affiliate programs at RegNow, Commission Junction, and eSellerate platforms. Communicated with new & experienced affiliate partners, customized and distributed online marketing materials, and created monthly Parallels Affiliate Newsletter. Collected and analyzed sales and affiliates stats, created Parallels affiliate program reports. From Dec 2006, the overall sales via affiliate network channel grew from \$0 to a peak of \$300K/month.

Telecommunication Engineer

[Central Science Research Telecommunication Institute](#), Moscow, Russia / Dec 2005—Nov 2006

Technical writing on telecom operators network testing methodology. Network system administration (FreeBSD, LAN, IPFW). Telecoms hardware testing and certification (Acterna, Lucent, Nortel, Iskratel, Ericsson). Development of demo software for next-generation networks proposed features.

TEACHING EXPERIENCE

Teaching Assistant

[The University of Texas at Austin](#), USA / Sep 2015—Jan 2016

EE 383L “Electromagnetic Field Theory” (graduate).

[University of Manitoba](#), Canada / Aug 2011—June 2014

ECE 3580 “Foundations of Electromagnetics”.

ECE 7440 “Wavefield Imaging and Inversion in Electromagnetics and Acoustics” (graduate).

[International College of Manitoba](#), Canada / Aug 2011—June 2014

MATH 1210 “Techniques of Classical and Linear Algebra”, MATH 1300 “Vector Geometry and Linear Algebra”, MATH 1500 “Introduction to Calculus”, MATH 1700

PROFESSIONAL ACTIVITY

Moderator, Computational Science Community

[Stack Overflow](#) / [Stack Exchange](#), May 2019—present.

Vice-Chair

[IEEE Photonics Society, Montréal Chapter](#), Feb 2023—Feb 2024.

[IEEE Antennas and Propagation Society](#), Membership and Benefits Committee Jan 2018—Jan 2022.