Bahar Partov

https://baharxy.github.io/
Technologist and Researcher
Computer Science PhD

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GitHub Profile
LinkedIn Profile

Summary

Communications and Leadership: experienced in cross-sector collaboration with engineers, researchers, investors, and policy makers. Led technical teams and volunteer groups; mentored graduate students and early-career professionals.
Analytical and Research Expertise: strong foundation in mathematical optimization, statistical learning theory and network design. Supported by a track record of peer-reviewed publications: Google Scholar Link
Technical Proficiency: skilled in network programming, pentesting and network simulations. Actively exploring agentic AI programming paradigms, with hands-on familiarity in building autonomous AI systems and integrating intelligent agents into secure infrastructures. Familiarity with optoelectronic devices, programmable radios, and IoT sensors.
Languages: English: Fluent, French: Intermediate, Persian: Native.

Qualifications

PhD in Computer Science (network mathematics) *08/2012 - 09/2015*

thesis: Resource Allocation for Next Generation RANs.
committee members: Prof Merouane Debbah, Dr.Rudi Villing, Dr. Catherine Hurley. advisor: Prof. Douglas Leith, Industrial advisers: Dr. Holger Claussen- Dr. Rouzbeh Razavi, Bell Labs

MSc in Telecommunications and Information Systems *09/2008 - 11/2009*

thesis: Novel video streaming over IEEE 802.16 Networks. GPA: 87/100, Graduated with Distinction
advisors: Prof. Mohammed Ghanbari, Prof. Martin Fleury
awarded Telecom Technologies Prize for outstanding performance.

BSc in Electrical Engineering *09/2003 - 10/2007*

minored in Communications Engineering GPA: 17.53/20
ranked 1st among communications engineering students

Experience: Research

Visiting Postdoctoral Fellow *09/2016 - 03/2017*

MIT Cambridge, USA
- actively contributed to the design and the initiation of new research projects in the Sensable City Lab, namely Philips smart lighting and the city scanner projects (Bash, Matlab, Python)
- contributed to applied research at CSAIL to develop synchronization algorithms suited for large-scale LTE networks (srsLTE: C++). The results demonstrated 2.7× throughput improvement over traditional synchronization methods.

Research Fellow *11/2015 - 09/2016*

Trinity College Dublin Dublin, Ireland
- designed and deployed experiments to evaluate the impacts of network delay on LTE and WiFi links (Python, Bash). The results provided new insights into the design of future multipath TCP schedulers.
- designed lightweight recommendation systems to automatically select WiFi APs based on previous training data and in a privacy-preserving manner (Matlab).
- conducted research on distributed optimization methods for network utility optimization and auction algorithms.

PhD Fellow *08/2012-08/2015*

Nokia Bell Labs Dublin, Ireland
- proposed mathematical models for solving resource allocation problems in 5G access networks.
- applied machine learning models, data analytics, and distributed optimization algorithms to solve such problems (Matlab simulations). This resulted in a total of 6 conference and journal publications with a total of 78 citations.
- used simulations, statistical analysis tools, and real-world experiments for data collection and evaluation (R, Matlab, Android: Java).

Experience: Engineering

•Security Engineering Manager *04/2025 - present*

Tucows Inc Remote
- developing and implementing the organization's security engineering roadmap.
- working closely with IT, DevOps, software engineering, and product teams to embed security into the development lifecycle.
- working with vulnerability management and security operations, to align remediation efforts.

•Software Engineer: Back-end and Security *11/2020 - 04/2025*

Tucows Inc Remote

– developing software plugins and packages for security purposes and for abuse detection/prevention in large scale networked systems (Perl, Go, Lua, Bash).
– developed and deployed a proof of concept observability platform powered by micro-services, relational databases, and open-source visualization tooling (Grafana, Postgresql, RabbitMQ).
– developed REST APIs, designed databases, and refactored code (PostgREST, Postgresql, Go).
– often worked with openstack cloud infrastructure, familiar with openstack tooling.
– serving as a representative of Tucows at ICANN's (Internet Corporation for Assigned Names and Numbers) CPH/TechOps working group.

•Software Consultant: DevOps *02/2020 - 11/2020*

Chebucto Community Net Remote

– fully upgraded decades-old web services (Apache), email services (LDAP, Postfix, MailMan3, SpamAssassin, ClamAV), admin UI (PHP, SQL), and wireless services (FreeRadius) for the community network that was maintained by volunteers since 1994. Most of work was carried out by (Bash and Perl) automation scripts.
– migrated 600 subscribed user accounts to work seamlessly with the new services.
– independently completed the transition in 7 months.

•Co-Founder and Tech Lead *03/2017 - 05/2019*

Wavelite NKA Haila Technologies Inc, Incubated at TandemLaunch VC Fund Monreal, Canada

– raised 600K investment fund from TandemLaunch Inc.
– built prototypes as proof-of-concept for a passive IoT sensor that relies on WiFi signals for its operation (C++, MQTT, FPGAs, Bash)
– paired with a co-founder, recruited a strong and diverse team of engineers.
– received several research grants that supported graduate student internships and welcomed young school students for summer internship opportunities.
– pitched and promoted the project globally at events such as CES, Taiwan's Garage+, CDL Lab at Toronto University, Quebec Chamber of Commerce alliance in China, etc.
– project was highlighted by RFID journal and received the CES Eureka Park climate change award in 2018.
– together with the co-founder locked in a development contract with a major home automation company based in Germany.

•Engineer *02/2010 - 08/2012*

Oclaro Inc NKA Lumentum Paignton, UK

– improved the existing C# based test automation suit with additional features and test cases.
– performed laboratory tests for product specification verification and prepared reports that were further used to create product specifications.
– contributed to research on the use of optical lasers in wind turbine array sensing applications. This solution resulted in a significant reduction in inventory complexity and associated installation and operating costs, as well as a high degree of measurement accuracy comparable to existing systems.

Grants and Funding

•25K CAD grant in collaboration with Dalhousie University *08/2018*

to design integrated circuits for ultra low-power RF energy detection. awarded by NSERC Canada

•60K CAD university-industrial partnership grants *05/2017, 10/2017*

created internship opportunities for graduate students. awarded by mitacs Canada

•25K CAD grant in collaboration with Polytechnique Montreal *11/2017*

created a graduate student internship opportunity to evaluate low-power digital design techniques. awarded by NSERC Canada

•600k CAD investment fund *07/2017*

funded by TandemLaunch Inc

•Computing Research Association travel grant *10/2016*

awarded by Mobicom, ACM SIGMOBILE

•N2 Women Young Researcher Fellowship *02/2015*

supported by Microsoft Research and HP labs.

•Full PhD scholarship *08/2012 - 08/2015*

awarded by Hamilton Institute and Nokia Bell Labs

Community

•Service d'Entraide Saint-Romuald, Volunteer *06/2022 - present*

Neighbourhood support services

•Women of the Middle East and North Africa in Tech, Montreal, Team lead and co-founder *05/2018 - 10/2020*

Team lead of the Montreal's chapter, organizing career fairs and ongoing monthly events

•AI for Social Good, summer school, Lecturer and Mentor *06/2018 , 06/2019*

Giving workshops and mentoring young selected students across Canada

•Crowd2map Tanzania, Volunteer *01/2018 - 11/2018*

Crowd mapping rural Tanzania, to fight FGM

•NetLab, Trinity College Dublin, Organizer *11/2015 - 08/2016*

Co-ordinated weekly seminar series at the School of Computer Science and Statistics, Trinity College Dublin

•IEEE conferences and Journals, Volunteer Reviewer *11/2012 - 06/2019*

Reviewer and program committee member for leading conferences and journals in wireless networking