

Anat Etzion-Fuchs

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EDUCATION

- Exp. 2021 **Ph.D. in Quantitative and Computational Biology**, Princeton University
Graduate certificate in Statistics and Machine learning
 Thesis: Applying machine learning methods to uncover patterns underlying proteins function, GPA:3.95/4.00
 Advisor: Prof. Mona Singh
- 2015-2017 **M.A. in Quantitative and Computational Biology**, Princeton University
- 2008-2013 **B.Sc. in Computer Science - Bioinformatics (summa cum laude)**, Technion - Israel Institute of Technology
GPA: 92.5/100, ranked #1 in the Bioinformatics track and #12/224 in the CS department
 Member of the first class of the Lapidim excellence program (top 5 students of each incoming CS class) for outstanding students with management and entrepreneurship skills.

WORK EXPERIENCE

- 2013-2014 **Qualcomm Incorporated**, Haifa, Israel
Software Engineer
 A member of the broadcast team, developing SW for a smart TVs and set-top boxes. Responsible for full SW development cycle to develop an Android device driver, including writing SW requirements, high-level design, detailed low-level design, coding and testing.
 Experience in open source: delivering code to the Android community.
- 2011-2013 **Qualcomm Incorporated**, Haifa, Israel
Software Engineer Intern
 A member of the wireless networking team, developed SW for high-speed wireless chipsets.
 Developed Windows/.NET drivers using agile methodology.
- 2009-2010 **BizTEC - Israel's National Entrepreneurship competition**, Haifa, Israel
Marketing Director
 Led the marketing activities for the competition across various universities.
 Helped orchestrating events that brought together academia and high-tech industry communities.
- 2005-2008 **Mandatory Military Service in the Israeli Intelligence Corps**, Tel-Aviv, Israel
Data Analyst and Foreign Affairs Manager, rank of First Sergeant
 Served in an elite-center, responsible for cryptography research for the Israeli intelligence corps, in the field of signal intelligence.
2007-2008 Led the division's foreign affairs, which entailed organizing workshops and collaborations with foreign countries. Required extensive knowledge of all the division's projects at the intelligence and technological level and included preparing other people for meetings.
2005-2008 Sole responsibility for a project with both intelligence and technology aspects. Data analysis using various programming tools and statistical approaches.

PUBLICATIONS

- 2021 **Anat Etzion-Fuchs**, David A. Todd, and Mona Singh. " dSPRINT: predicting DNA, RNA, ion, peptide and small molecule interaction sites within protein domains", *Nucleic Acids Research* (2021)

AWARDS AND HONORS

- 2019 **Women in Machine Learning (WiML) travel grant**
Recipient of the WiML workshop travel grant, for poster presenters and reviewers
- 2017 **Princeton Research Day, Best Poster award for graduate/post-doctoral track**
Poster title: *"Identifying Functional Protein Domain Positions Using Population Variation"*
- 2012 **Google Anita Borg Memorial scholarship EMEA**
Recipient of the Google Anita Borg Scholarship for leading women in computer science.
- 2012 **SAMBA scholarship**
Technion CS prize for academic excellence, contributed by Mellanox Technologies.
Two awards were given for both semesters.
- 2011 **Lapidim scholarship**
Technion CS prize for academic excellence, contributed by Pascal-Louis Perez.
- 2009 **The Andi Grove scholarship for Intel Employees' children**
A competitive scholarship granting prizes for pursuing higher education.
- 2008-2013 **Lapidim excellence program of the Technion Computer Science Department**
Studied with full tuition scholarship and a monthly stipend.
- 2008-2013 **Technion President's List award of Distinction**
Top 3% in each department (4 semesters).
- 2008-2013 **Technion Dean's List award of Distinction**
Top 15% in each department (3 semesters).
- 2007 **Military "Personal Award of Excellence"**
For contributing to the center's work and the advancement of the intelligence service and security.

TEACHING AND MENTORING EXPERIENCE

- 2018 **Mentor for First-Year Graduate Students**, Princeton University
Spring 2018 Rishabh Sharan (Ph.D. Quantitative and Computational Biology, exp. 2022)
Research topic: *"Gradient boosting: tuning performance and predictions"*
- 2017-2020 **Assistant Instructor**, Princeton University
Fall 2017, Fall 2019 *"Introduction to Genomics and Computational Molecular Biology"* (COS 551)
- 2017-2018 **ReMatch Mentor for Undergraduate Students**, Princeton University
A mentor through the Princeton ReMatch mentorship program.
Constructed a summer research project and advised an undergraduate student.
Summer 2017 David A. Todd (A.B. Computer Science, exp. 2020).
Research topic: *"Statistical analysis of protein domains using physiochemical properties"*
Summer 2018 Madhumitha Shridharan (B.S.E. Operations Research & Financial Engineering, exp. 2020)
Research topic: *"Deep learning framework for predicting proteins' functional sites"*

PRESENTATIONS

Posters

- 12/2019 Machine Learning in Computational Biology (MLCB), *Vancouver, Canada*
- 12/2019 Women in Machine Learning (WiML), *Vancouver, Canada*
- 05/2019 RECOMB, *Washington, DC*

- 08/2017 Quantitative Biology Meeting: Making Use of Emerging Technologies, *Cold Spring Harbor, NY*
- 05/2017 Princeton Research Day (PRD), *Princeton, NJ*
- 04/2017,2019 NHGRI Training Grant Annual Meeting, *St Louis, MO*

Talks

- 01/2021 Lapidim Technion CS excellence program colloquium
Virtual
- 03/2020 Burstein Lab group meeting research talk
Tel Aviv University, *Tel Aviv, Israel*
- 07/2019 Affinity groups research talk
Computational Genomics Summer Institute (CGSI), *UCLA, Los Angeles, CA*
- 06/2012 Students' representative speech on behalf of the SAMBA scholarship recipients
Excellent Students (SAMBA) award ceremony, *Technion, Haifa, Israel*

TECHNICAL SKILLS

Programming languages: Python, R, C, C++, C#, Java, , MATLAB, C-Shell, SQL, VBA, LaTeX.

Languages: Hebrew (native), English (near native), Arabic (Elementary)

SERVICE AND OUTREACH

Conferences

- 2020 Grace Hopper Celebration (GHC), Data Science committee member, *Virtual*
- 2020 Pacific Symposium on Biocomputing (PSB), referee, *Big Island of Hawaii*
- 2019 Machine Learning in Computational Biology (MLCB), *Vancouver, Canada*
- 2019 Women in Machine Learning (WiML) Workshop, referee, *Vancouver, Canada*
- 2018 Women in Machine Learning (WiML) Workshop, referee, *Montréal, Canada*

Journals

- 2019 Nucleic Acids Research, referee

Leadership

- 2018-2021 Princeton Society of Women Engineers (SWE) Graduate Chapter
Vice President, Board member
- 2017-2020 Princeton QCB mentorship program
Co-founded the mentorship program (Fall 2017), and served as a mentor for first year graduate student
- 2015-2016 Princeton Women in STEM Leadership Council
Committee Member

Professional Memberships

- 2012-present Association for Computing Machinery (ACM)
- 2016-present Women Techmakers
- 2017-present Society of Women Engineers (SWE)
- 2018-present International Society of Computational Biology (ISCB)
- 2018-present Women in Machine Learning (WiML)