

# Haim Bar, Ph.D.

Associate Professor  
Department of Statistics  
University of Connecticut

[haim.bar@uconn.edu](mailto:haim.bar@uconn.edu) • <https://haim-bar.uconn.edu> • <https://github.com/haimbar>

## RESEARCH INTERESTS

Statistical models; shrinkage estimation; Bayesian high-dimensional data; high throughput applications in biology; Bayesian statistics; machine learning.

## EDUCATION

**Cornell University**, Ithaca, New York USA. Statistics: Ph.D. 2012, M.Sc. 2010.

**Yale University**, New Haven, Connecticut USA. M.Sc. in Computer Science.

**The Hebrew University**, Jerusalem, Israel. B.Sc. in Mathematics, Cum Laude.

## ACADEMIC EXPERIENCE

**University of Connecticut**, Storrs, Connecticut, USA.

2019 – Present: Associate Professor.

2013 – 2019: Assistant Professor.

I am an associate professor at the University of Connecticut, in the Department of Statistics. I am affiliated with the Institute for Systems Genomics (ISG), the Institute for Collaboration on Health, Intervention, and Policy (InCHIP), and the CT Institute for the Brain and Cognitive Sciences (IBACS).

Teaching: STAT 5005: Introduction to Applied Statistics; STAT 5505: Applied Statistics I; STAT 5605: Applied Statistics II; STAT 3515Q/5515: Design of Experiments; STAT 3675Q: Statistical Computing; STAT/BIST 5225: Data Management in SAS and R; STAT/BIST 5215: Statistical Consulting; STAT 5615: Categorical Data Analysis.

**The Hebrew University**, Jerusalem, Israel. 2022 (May-August). Visiting faculty.

**Cornell University**, Ithaca, New York, USA.

2011 – 2013: Statistical Consultant.

As a member of the Cornell Statistical Consulting Unit (CSCU) I provided statistical consulting to Cornell faculty and staff. I handled a diverse range of applications, including economics, business, genomics, nutrition, sociology, etc. I presented a wide range of topics in workshops, and as a guest lecturer in courses at Cornell, including on Bayesian statistics, missing data, multiple testing, etc.

Teaching: BTRY 6020: Statistical Methods II.

2012 – 2013: PostDoc, Department of Statistical Science

I collaborated with the Melnick Lab at the Weill Cornell Medical College. I developed new methods and applied existing techniques to analyze very large data sets involving up to millions of features. Primarily, we focused on methylation data for epigenetic analysis, and RNA sequencing for transcription regulation analysis.

## PUBLICATIONS

- Nguyen, H., Bar, H., Chi, Z., & Pozdnyakov, V. (2026). A time-varying branching process approach to model self-renewing cells. *Methodology and Computing in Applied Probability*, 28(38). doi: 10.1007/s11009-026-10270-1
- Clement, N. J., Hamasaki-Katagiri, N., Lin, B., Komar, A. A., DiCuccio, M., Bar, H., & Kimchi-Sarfaty, C. (2025, 12). Uncovering position-specific patterns in codon and codon-pair usage in candidate genes associated with blood coagulation diseases. *NAR Genomics and Bioinformatics*, 7(4), lqaf169. Retrieved from <https://doi.org/10.1093/nargab/lqaf169> doi: 10.1093/nargab/lqaf169
- Bar, H., & Pozdnyakov, V. (2025). High dimensional space oddity. *The American Statistician*, 0(ja), 1–12. Retrieved from <https://doi.org/10.1080/00031305.2025.2505507> doi: 10.1080/00031305.2025.2505507
- Fumagalli, S. E., Smith, S., Lin, B., Paul, R., Campbell, C., Santana-Quintero, L., ... Kimchi-Sarfaty, C. (2025). Uncovering codon usage patterns during murine embryogenesis and tissue-specific developmental diseases. *Frontiers in Genetics, Volume 16 - 2025*. Retrieved from <https://www.frontiersin.org/journals/genetics/articles/10.3389/fgene.2025.1554773> doi: 10.3389/fgene.2025.1554773
- Kane, C., Trochim, W., Bar, H., Vaught, A., Baker, H., Khan, M., ... Doyle, J. M. (2025). Navigating the road ahead: using concept mapping to assess Clinical and Translational Science Award (CTSA) program goals. *Front. Public Health*, 13(1562191). doi: 10.3389/fpubh.2025.1562191
- Bar, H., & Ting, N. (2025). A Conversation with Dr. David S. Salsburg. *Journal of Data Science*, 23(1), 70–89. doi: 10.6339/25-JDS1171
- Shkolnik, A., Kercheval, A., Gurdogan, H., Goldberg, L. R., & Bar, H. (2024). Portfolio selection revisited. *Annals of Operations Research*. Retrieved from <https://doi.org/10.1007/s10479-024-06340-7> doi: 10.1007/s10479-024-06340-7
- Fumagalli, S. E., Smith, S., Ghazanchyan, T., Meyer, D., Pandl, R., Campbell, C., ... Kimchi-Sarfaty, C. (2024). Mouse embryo cocoputs: novel murine transcriptomic-weighted usage website featuring multiple strains, tissues, and stages. *BMC Bioinformatics*, 25. Retrieved from <https://doi.org/10.1186/s12859-024-05906-3> doi: 10.1186/s12859-024-05906-3
- Adikari, S., Diawara, N., & Bar, H. (2024). The geometry of dynamic time-dependent best–worst choice pairs. *Axioms*, 13(9). Retrieved from <https://www.mdpi.com/2075-1680/13/9/641> doi: 10.3390/axioms13090641

- Bar, H., & Wells, M. T. (2023). On graphical models and convex geometry. *Computational Statistics & Data Analysis*, 187, 107800. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0167947323001111> doi: <https://doi.org/10.1016/j.csda.2023.107800>
- Bar, H., & Yan, J. (2023). Legendary Career and Colorful Life: A Conversation with Dr. Bob Riffenburgh. *Journal of Data Science*, 21(4), 818–837. doi: 10.6339/23-JDS1115
- Witherow, M. A., Samad, M. D., Diawara, N., Bar, H. Y., & Iftekharuddin, K. M. (2023). Deep adaptation of adult-child facial expressions by fusing landmark features. *IEEE Transactions on Affective Computing*, 1-12. doi: 10.1109/TAFFC.2023.3297075
- Fumagalli, S. E., Padhiar, N. H., Meyer, D., Katneni, U., Bar, H., DiCuccio, M., ... Kimchi-Sarfaty, C. (2023). Analysis of 3.5 million SARS-CoV-2 sequences reveals unique mutational trends with consistent nucleotide and codon frequencies. *Virology Journal*(31). Retrieved from <https://virologyj.biomedcentral.com/articles/10.1186/s12985-023-01982-8> doi: 10.1186/s12985-023-01982-8
- Barrett, D., Wyatt, M., Bar, H., Haynes, M. K., Edwards, B. S., Sklar, L. A., & Zweifach, A. (2022). A phenotypic screen for compounds that reverse cAMP-mediated suppression of T cell functions. *SLAS Discovery*. Retrieved from <https://www.sciencedirect.com/science/article/pii/S2472555222126596> doi: <https://doi.org/10.1016/j.slasd.2022.03.008>
- Kateni, U., Alexaki, A., Hunt, R., Katagiri, N., Hettiarachchi, G., Kames, J., ... Kimchi-Sarfaty, C. (2022, 04). Structural, functional, and immunogenicity implications of F9 gene recoding. *Blood Advances*. Retrieved from <https://doi.org/10.1182/bloodadvances.2022007094> (bloodadvances.2022007094) doi: 10.1182/bloodadvances.2022007094
- Cheng, J., Bar, H., & Tako, E. (2021). Zinc Status Index (ZSI) for Quantification of Zinc Physiological Status. *Nutrients*, 13(10). Retrieved from <https://www.mdpi.com/2072-6643/13/10/3399> doi: 10.3390/nu13103399
- Bar, H., Booth, J. G., & Wells, M. T. (2021). Mixed effect modelling and variable selection for quantile regression. *Statistical Modelling*, 0(0), 1471082X211033490. Retrieved from <https://doi.org/10.1177/1471082X211033490> doi: 10.1177/1471082X211033490
- Meyer, D., Kames, J., Bar, H., Komar, A. A., Alexaki, A., Ibla, J., ... Kimchi-Sarfaty, C. (2021). Distinct signatures of codon and codon pair usage in 32 primary tumor types in the novel database CancerCoCoPUTs for cancer-specific codon usage. *Genome Medicine*, 13(122). doi: 10.1186/s13073-021-00935-6
- Holcomb, D., Hamasaki-Katagiri, N., Laurie, K., Katneni, U., Kames, J., Alexaki, A., ... Kimchi-Sarfaty, C. (2021). New approaches to predict the effect of co-occurring variants on protein characteristics. *The American Journal of Human Genetics*, 108, 1502-1511. Retrieved from <https://www.sciencedirect.com/science/article/pii/S0002929721002354> doi: <https://doi.org/10.1016/j.ajhg.2021.06.011>

- Bar, H., & Wang, H. (2021). Reproducible Science with LATEX. *Journal of Data Science*, 19(1), 111-125. doi: 10.6339/21-JDS998
- Bar, H., & Bang, S. (2021). A mixture model to detect edges in sparse co-expression graphs with an application for comparing breast cancer subtypes. *PLoS ONE*, 16(2), e0246945. doi: <https://doi.org/10.1371/journal.pone.0246945>
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- Bar, H. Y., Booth, J. G., & Wells, M. T. (2020). A Scalable Empirical Bayes Approach to Variable Selection in Generalized Linear Models. *Journal of Computational and Graphical Statistics*, 0(0), 1-12. Retrieved from <https://doi.org/10.1080/10618600.2019.1706542> doi: 10.1080/10618600.2019.1706542
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## UNDER REVIEW OR IN PREPARATION

- Nguyen, H., Bar, H., Chi, Z., Pozdnyakov, V. *A Time-Varying Branching Process Approach to Model Self-Renewing Cells.*
- Bar, H., Nguyen, H., Conover, J. *A State Model for the Analysis of Stem Cell Proliferation and Differentiation*

## GRANTS AND CONTRACTS

- Research Foundation of The City University of New York, (May 1, 2024 - April 30, 2027). *Interaction of Choline and Fat in the Prenatal Programming of Nonalcoholic Steatohepatitis*, Funding amount: \$113,536 .
- CLAS Research in Academic Themes 2024 funding initiative (January 2024-June 2024). PI. *The Blessing of Dimensionality - Theory of Convex Geometry and Concentration of Measure with Applications in Machine Learning, Finance, and Genomics*. Funding amount \$30,000.
- BlackRock Inc. additional funding for *The Blessing of Dimensionality - Theory of Convex Geometry and Concentration of Measure with Applications in Machine Learning, Finance, and Genomics*. Funding amount \$15,000.
- CLAS Research in Academic Themes 2022 funding initiative (January 2023-June 2024). PI. *A novel statistical approach to uncover the hidden language of long non-coding RNAs*. Funding amount \$49,725.
- IBACS Seed Grant. PI. *Modeling and visualizing the formation of brain cavities covering from stem cells*. Funding period: 1/1/2022-12/31/2022. Funding amount \$18,516.
- NIH Award: *Characterization of the ventricular-subventricular stem cell niche during human brain development*. PI: J. Conover. H. Bar (co-Investigator.) Funding period: April 2020-March 2024.
- NSF Award 1612625. PI. *Variable Selection in the High Dimensional, Low Sample Size Setting - Beyond the Linear Regression and Normal Errors Model*. Funding period: 8/15/16-7/31/19. Funding amount \$150,000.
- National Science Center - Poland. *Identification of transcriptomic markers of maize resistance to cereal aphids*. PI Dr. Hubert Sytykieticz. Funding period: 2/9/17-2/8/20.
- Travelers. *Modeling and analysis of large insurance claim and occurrence data: A partnership between UConn and Travelers*. 2018 – PI: Dr. Dipak Dey, co-PIs: Haim Bar, Kun Chen, Elizabeth Schifano, Xiaojing Wang. Funding period: 8/1/17-7/31/18. Funding amount \$137,881. 2019 – PI: Dey, D. Co-Investigators: Haim Bar, Kun Chen, Victor Hugo Lachos Davilla. Funding period: 8/1/2018 - 7/31/2019. Funding amount \$146,451.

## PATENTS

- U.S. Patent 20230041627 A1 (Publication Date: February 9, 2023)  
*Assay Compound Screening*.
- U.S. Patent 9384677 (granted July 5, 2016)  
U.S. Patent 20150213730 A1 (Publication Date: July 30, 2015)  
U.S. Patent 9076342 B2 (granted July 7, 2015)  
U.S. Patent 20090208910 A1 (Publication Date: August 20, 2009)  
*Automated execution and evaluation of network-based training exercises*.  
Inventors: Brueckner, S. K.; Adelstein, F. N.; Bar, H.; Donovan, M.

- U.S. Patent 20150143355 (Publication Date: May 21, 2015)  
*Service Oriented Architecture Version and Dependency Control.*  
Inventors: Tingstrom, D. J.; Joyce, R. A.; Stillerman, M. A.; Brueckner, S. K.; Bar, H.
- U.S. Patent 8,984,396 (granted March 17, 2015)  
*Identifying and representing changes between extensible markup language (XML) files using symbols with data element indication and direction indication.*  
Inventors: Tingstrom, D. J.; Joyce, R. A.; Stillerman, M. A.; Brueckner, S. K.; Bar, H.
- U.S. Patent 8,898,285 (granted November 25, 2014)  
*Service oriented architecture version and dependency control*  
Inventors: Tingstrom, D. J.; Joyce, R. A.; Stillerman, M. A.; Brueckner, S. K.; Bar, H.
- U.S. Patent 8,286,249 (granted October 9, 2012)  
U.S. Patent 7,748,040 (granted June 29, 2010);  
*Attack correlation using marked information.*  
Inventors: Adelstein F. N., Bar H., Alla P. and Proskourine N.

## SHORT COURSES

- Data Science. University of Connecticut, Pre-College Summer, 2022-2024.
- Advanced statistical modeling ideas (session on missing data). The University of Barcelona, Spain. January, 2019.
- Advanced topics in R and Machine Learning. The Technion, Haifa, Israel. July, 2018.
- R/Bioconductor workshop - the Technion, Haifa. November, 2016 (co-taught with Dr. Martin Morgan).

## INVITED TALKS

### *High Dimensional Space Oddity.*

- The Joint Statistical Modeling, Nashville, TN (August, 2025).
- Statistics Department Colloquium, UConn (October, 2024).

### *On graphical models and convex geometry.*

- Consortium for Data Analytics in Risk, Berkeley, CA. November, 2023.
- SIAM Conference on Financial Mathematics and Engineering. Philadelphia, PA. June, 2023.
- Mathematics and Statistics Department, Old Dominion University. March, 2023.
- Statistics Department, The Hebrew University, Jerusalem, Israel. June 2022.

### *Large-P Variable Selection in Two-Stage Models.*

- CMStatistics, London, UK, December 2020.
- University of Connecticut, March 2020.
- University of Haifa, Israel. May, 2020.

### *Quantile Regression Modelling via Location and Scale Mixtures of Normal Distributions.*

- Cornell University, October 2019.

*A Mixture Model to Detect Edges in Sparse Co-expression Graphs.*

- The 3rd Eastern Asia Meeting on Bayesian Statistics, Seoul, South Korea. July, 2018.
- Yonsei University, Seoul, South Korea. July, 2018.
- Korea University, Seoul, South Korea. July, 2018.
- Bayesian Modeling, Computation, and Applications, Storrs, CT, May 2018.

*A Scalable Empirical Bayes Approach to Variable Selection in Generalized Linear Models.*

- The 34th Quality and Productivity Research Conference, Storrs, CT, June 2017.
- The 10th ICSA International Conference, Shanghai, China. December, 2016.
- Temple University, Research Colloquium, Department of Statistical Science, April 2017.
- Baruch College, CUNY, Colloquium, Department of Information Systems and Statistics Zicklin School of Business, November 2016.

*A Scalable Empirical Bayes Approach to Variable Selection.*

- 2016 Joint Statistical Meetings, Chicago, IL. July, 2016.
- Joint UCONN/UMASS Statistics Colloquium, University of Massachusetts Amherst, MA. October 7, 2015
- Statistics Seminar, Department of Mathematics - University of Maryland. October 1, 2015.
- Colloquium - Mathematical Biosciences Institute - The Ohio State University. Sep. 21, 2015

*An Empirical Bayes Approach to Variable Selection and QTL Analysis.*

- Purdue University, Research Colloquium, Statistics Department, October 2014.
- Modern Modeling Methods ( $M^3$ ) Conference, Storrs, CT, May 2014.

*Model-based approaches for big-data problems, with applications in genomics.*

- University of Connecticut, Institute for Systems Genomics Annual Networking Workshop. Storrs, CT. May 13, 2014.

*A Bivariate Model for Simultaneous Testing in Bioinformatics Data*

- 3rd International Conference and Exhibition on Biometrics & Biostatistics, Baltimore, MD, October 2014.
- University of Iowa, February 2013
- NIH/NCI, March 2013
- University of Connecticut, February 2013
- University of Rochester, February 2013
- Cornell University, October 2012
- *Accounting for Heaping in Retrospectively Reported Event Data - A Mixture Model Approach.* ICSA Applied Statistics Symposium in New York City, NY, USA. June 2011.

*A Heap of Trouble? Accounting for Mismatch Bias in Retrospectively Collected Data on Smoking.*

- 3rd Biennial Conference of the American Society of Health Economists, Ithaca, NY, June 2010.

## CONFERENCE PRESENTATIONS

- *An Empirical Bayes Approach to Variable Selection and QTL Analysis*. Frontiers Of Hierarchical Modeling In Observational Studies, Complex Surveys And Big Data: A Conference Honoring Professor Malay Ghosh. College Park, MD. May 29-31, 2014.
- *A Mixture-Model Approach for Testing for Unequal Variances in Microarray Data*. Conference of Applied Statistics Ireland, Galway, Ireland, 2011.
- *An Empirical Bayes Approach to Variable Selection and QTL Analysis*. In the Proceedings of the 25th International Workshop on Statistical Modelling, Glasgow, Scotland, 2010.

## JOURNAL REFEREE

Annals of Applied Statistics; Bayesian Analysis; Bioinformatics; Biometrics; Behavior Research Methods; BMC bioinformatics; Conservation Biology; Evaluation and Program Planning; International Journal of Environmental Research and Public Health; International Statistical Review; Journal of Agricultural, Biological, and Environmental Statistics; Journal of Computational and Graphical Statistics; Journal of Statistical Modeling; Journal of Statistical Planning and Inference; Journal of Statistical Theory and Practice; Journal of the American Statistical Association; Methodology & Computing in Applied Probability; PLOS ONE; Statistical Analysis and Data Mining; Statistical Modelling; Statistics and Its Inference; Statistics in Medicine; Stats.

## REFEREE - OTHER

- National Science Foundation (NSF), CISE.
- National Science Foundation (NSF), 2017.
- The Donaghue Medical Research Foundation:
  - “Greater Value Portfolio” - Review Board Member, 2015, 2016, 2017.
  - “Another Look” - Review Board Member, 2016.
- National Aeronautics and Space Administration - Review Board Member, 2016.
- International Chinese Statistical Association - Student Award Committee for the 2016 ICSA International Conference in Shanghai, China, Dec. 19-22, 2016.
- New England Statistics Symposium - IBM Student Award Committee, 2015.

## CONFERENCE ACTIVITIES

- Organizer: The Blessings of Dimensionality Workshop, University of Connecticut, Storrs, CT, 2024.
- Organizing committee: The Department of Statistics 60th anniversary, University of Connecticut, Storrs, CT, 2022.
- Organizing committee: The 33rd New England Statistics Symposium, Hartford, CT, 2019.

- Co-chair of the organizing committee: The 31st New England Statistics Symposium, Storrs, CT, 2017.
- Co-chair of the organizing committee: The 34th Quality and Productivity Research Conference, Storrs, CT, 2017.
- Session chair - Joint Statistical Meeting, 2016 (Chicago, IL). Session title: R Tools for Statistical Computing
- Session chair - Joint Statistical Meeting, 2015 (Seattle, WA). Session title: Methods in Machine Learning and Data Mining.
- Session chair - 3rd International Conference and Exhibition on Biometrics & Biostatistics, 2014.

## DEPARTMENT AND UNIVERSITY COMMITTEES

Distinguished Statistician Colloquium - the Pfizer Series (Chair).  
 Graduate program curriculum - applied statistics (Chair).  
 Computing (Chair).  
 New England Statistics Society.  
 New England Statistics Symposium, 2017.  
 Gratis faculty appointment (Chair).  
 Visiting assistant professor search committee.  
 Graduate students and distinguished alumni awards.  
 UConn's Q-Center.  
 Environmental health and safety (Chair).  
 Library / tech reports (Chair).

## OTHER SERVICES

College of Liberal Arts and Sciences. Research Advisory Committee AY22-23.  
 The New England Journal of Statistics in Data Science - Software section. Editor.  
 Data Science in Science. Associate Editor.  
 Sankhya Series A, the Indian Journal of Statistics. (2018-2021) Associate Editor.  
 Health Policy Statistics Section communication officer (July 2016-June 2019).  
 Health Policy Statistics Section - best student paper review board (for JSM 2017).  
 The 10th ICSA International Conference - Young Researcher Award review committee.  
 New England Statistics Society - co-chair of the committee to establish the society's journal.  
 Eastern North American Region (ENAR) 2019: Program committee member. (2018).

## PH.D. ADVISING

Kangyan Liu, 2019 (major advisor)  
 Paul McLaughlin, 2019 (major advisor)

Cheng Huang, 2022 (associate advisor)  
Srawan Bishoni, 2022 (associate advisor)  
Ziqi Yang, 2021 (associate advisor)  
Ellis Shaffer, 2020 (associate advisor)  
Zhe Wang, 2020 (associate advisor)  
Dakota Cintron, 2020 (associate advisor)  
Chaoran Hu, 2020 (associate advisor)  
Yulia Sidi, 2020 (associate advisor)  
Jieying Jiao, 2020 (associate advisor)  
Renjie Chen, 2019 (associate advisor)  
Ruochen Zha, 2018 (associate advisor)  
chongliang Luo, 2017 (associate advisor)  
Aditya Mishra, 2017 (associate advisor)  
Neha Mishra, 2017 (associate advisor)  
Chantal Larose, 2015 (associate advisor)  
Guang Ouyang, 2015 (associate advisor)

## PROFESSIONAL EXPERIENCE

**ATC-NY**, Ithaca, New York, USA.

2003 – 2010: Principal Scientist.

Involved in several government-funded research projects, mostly related to secure and survivable computer systems. For example, in the SPRINT project (“Secure Programming Using Artificial Intelligence Techniques”) I designed and prototyped a tool to support secure programming with SPARK (SRI’s Procedural Agent Realization Kit). In “Policy Projector”, a Phase I OSD-funded effort, I was involved in the design of a tool that rapidly reveals potential problems with network policy changes prior to their implementation. In “Software Pedigree Analysis” (SPAN), a DARPA Phase I SBIR effort, I developed a prototype that maintains software pedigree to support future forensic investigations; and in “Active Smart Targets for Effective Response” (ASTER), a DARPA-funded Phase II SBIR, I developed a prototype to identify hackers by feeding them traceable information during exploratory probes.

**MicroPatent LLC**, East Haven, Connecticut USA.

2002 – 2003: Director of Software Development.

Responsible for all software development projects, leading a team of 15-20 programmers. Designed and implemented an extensive patent-family database with over 50 million records, merging several different sources of data. Developed analytical tools for advanced patent searchers.

2000 – 2002: Special Projects Manager.

Led a team of five people to develop a large-scale system to deliver patent databases in XML format. The project included designing a database, writing a program to convert the data to XML, writing programs to validate the XML, and programs to automate and monitor the delivery process.

1999 – 2000: Team Leader

Led a team that designed and implemented comprehensive patent and trademarks databases and web interfaces. In addition to developing web-based applications, I was involved in other projects, including the design and implementation of a Client/Server application to provide customers with direct access to the patent database (using OpenText's "Bibliographic Retrieval Services (BRS)/Search"); design and implementation of an SQL-based database to save user queries, and a corresponding web interface that allows users to construct complicated searches by combining results from previous searches, and share searches with colleagues; and an information-theoretic approach to improve retrieval of records.

1997 – 1999: Unix Programmer

Involved in almost all the development projects in the company, including programs to enable our web customers to download patent data in PDF format (the first web site in the industry to do that), and in Lotus Notes format.

**Motorola Israel - Wireless Access Systems Division**, Tel Aviv, Israel.

1995 – 1997: Software Engineer.

As part of the Software Quality Assurance (SQA) team in the "Wireless Local Loop" (WiLL) project, I was involved in a wide range of activities, including extensive test and integration of wireless and land telephony systems, from the operating system of the base stations to the end-user wireless equipment; software engineering practices and procedures; writing a graphic user interface for the WiLL system; writing a program to automate the analysis of massive log files in order to detect anomalies; and integration and testing of an encryption device in the fixed wireless terminals.

## OTHER SKILLS

Statistical Packages: R, BUGS, Matlab, JMP, SAS, Stata, SPSS.

Programming languages: Python, C, Perl, Java, JavaScript, Unix shell scripts, SQL, PHP, HTML/XML, Tcl/Tk.

Updated on April 21, 2026