LEVI SOLOMYAK, MS

COMPUTATIONAL NEUROSCIENTIST

Contact

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Technical Skills

QUANTITATIVE

Computational Neuroscience
Reinforcement Learning
Mathematical modeling

CODING

Python
R
SQL
STAN

Awards

Barbara and Morton Mandel Fellowship For Excellence — 2022

Center for Interdisciplinary Data Science Fellow — 2020

Summary

For over eight years, I have used **data science** (ML, RL) and cognitive modeling to understand how humans make decisions across a wide range of contexts, spanning from radicalization to terrorism to economic biases. I am passionate about solving challenging data problems in team settings.

Education

MSc & Ph.D in Computational Neuroscience
2018 - Current

Hebrew University

Trained in math, artificial intelligence (ML & DL), information theory, mathematical modelling of neural networks and cognition, statistics and lab work.

Grade: 94

B.A in Mathematics, Philosophy-Neuroscience-Psychology
2009 - 2013

Washington University in St. Louis

Magna Cum Laude

Employment

Cognitive Variations Lab
Feb./2019 - Current

Researcher — Hebrew University

- Developed novel reinforcement learning algorithms for how humans generalize preferences.
- Found evidence that training diversity helps humans generalize well across contexts in economic decisions, *published in PLOS Computational Biology 2022*
- Implemented a *longitudinal* behavioral experiment in a mobile app that is integrated with physiological monitoring and brain imaging.

Israel Center for the Treatment of Psychotrauma
Sept./2016 - Sept./2017

Researcher — Metiv Center

- Developed ML based interventions for improving resilience for at risk adolescents *published in Current Psychiatry Reports 2017*

Cole Neuroscience Laboratory
June/2014 - June/2016

Research Technician & Lab Manager — Rutgers University

- Designed and executed large scale neuroimaging studies (120+ participants) investigating the dynamic architecture that underlies flexible human cognition and human learning, *published in Nature Communications 2017 and Network Neuroscience 2019.*
- Managed laboratory infrastructure/operations, and trained 5 undergraduate researchers.

Key Publications

- **Solomyak L**, Sharp PB, Eldar E (2022) Training diversity promotes absolute-value-guided choice. PLOS Computational Biology
- Schultz DH, Ito T, **Solomyak L**, Chen RH, Mill RD, Anticevic A, Cole MW . "Global connectivity of the frontoparietal cognitive control network is related to depression symptoms in the general population". Network Neuroscience (2019)
- Saltzman, L. Y., **Solomyak, L.** Pat-Horenczyk, R. Addressing the Needs of Children and Youth in the Context of War and Terrorism: The Technological Frontier Current Psychiatry Reports 2017