GILI KARNI

karnigili.github.io
gili.karni@minerva.kgi.edu

EDUCATION

Minerva Schools at KGI   **San Francisco, CA, USA. 2020**

Bachelors of Science: Majoring in Data Science & Cognitive Science   GPA: 3.88
Relevant coursework:

- Mathematical and Statistical Modeling (CS)
- Machine Learning for Science & Profit (CS)
- Causal Inference for Decision-making (CS)
- Reinforcement Learning (CS)
- Cognitive Neuroscience (SS)
- Network Neuroscience (CS/SS)

PUBLICATIONS AND PRESENTATIONS

- Metzner C., **Karni G.**, McMahon-Cole H., Mäki-Marttunen T., and Steuber V. (2019) The effect of alterations of schizophrenia-associated genes on gamma-band auditory steady-state responses. Poster presented at OCNS.
- **Karni G**. and Metzner C., (2020) A Cortical Model Examining Mismatch Negativity Deficits Under Schizophrenia-Linked Variants. Short talk presented at Neuromatch 1.0.

PROFESSIONAL EXPERIENCE

Research Intern, Neuroimaging Lab, IBM Research.   Yorktown Heights, NY, USA. Summer 2019

- Developed a mixed-data, multi-input neural network predicting conversion to psychosis among subjects at clinical high-risk using various data types.
- Analyzed structural data (MRI) using partial correlations to identify early biomarkers of psychosis.
- Presented novel, clinically-interpretable, significant results. A manuscript is currently in draft form.

Research Assistant, Neural Information Processing Lab, TU-Berlin.   Berlin, Germany. 2018-2019

- Developed a biophysically detailed model of cortical predictive coding - allowing to explore Schizophrenia-linked genetic variants on perceptual learning.
- Optimized model's runtime using parallelization frameworks and public/private multi-core servers.

Data Science Intern, XRHealth LTD.   Tel Aviv, Israel. Summer 2018

- Devised and developed an ETL pipeline, increasing analysis-available data from VR platforms by 50%.
- Implemented statistical metrics in models delivering real-time medical insights.

Data Analysis Intern, Reali inc.   San Mateo, CA, USA. Summer 2017

- Designed and developed an NLP model, identifying customer intent from incoming chat messages.
- Delivered a production-ready python web system with training pipeline and dashboards.

First Lieutenant, Unit 8200, Israeli National Intelligence Agency.   Israel. 2013-2015

- Led a team of eight analysts, pursuing cyber missions in the defense and security realms.
- Awarded the Colonel Certificate of Excellence for Leadership in the organization.

SKILLS & INTERESTS

Technical skills: Languages: Python (*Machine Learning*: scikit-learn, Keras, PyTorch; *Statistical Modeling*: PyStan; *Data Visualization*: Pandas, matplotlib, seaborn; *Neuroscience*: NetPyNE, MNE), R (ggplot).
Technologies: NEURON, FreeSurfer, AFNI, SQL, Tableau, NLP (RASA), git, Docker.

Research interests: Human intelligence, Cognitively-inspired Algorithms & Models, Computational Psychiatry, Reinforcement Learning.