

SCOTT GUERIN

EXPERIENCE

FELLOW, INSIGHT DATA SCIENCE SILICON VALLEY – 2017-PRESENT

- Conducted exploratory data analysis for AWAIR, a San Francisco startup making indoor air quality monitors
- Used SQL to access an air quality time series database with ~6.5 billion rows of data from ~12,000 users
- Identified key temporal trends driving air quality metrics
- Implemented a machine learning algorithm (random forest) in Python to identify the type of dwelling (home vs. office) based on key temporal trends, enabling labelling of data from ~2,500 users
- Developed methods for optimizing personalized recommendations for users

RESEARCH ASSOCIATE, STANFORD UNIVERSITY – 2015-2017

- Lead statistical analyst and lead research scientist on a large-scale 5-year study of human memory and aging (250 subjects, 6 GB of data per subject)
- The study employed machine learning analysis of human neural activity (functional MRI), ultra-high resolution structural brain imaging, and molecular and genetic biomarkers of Alzheimer's disease
- Implemented machine learning algorithms in Python (regularized logistic regression) to decode the visual content of memories from neural activity (~700,000 features per time point with low signal-to-noise)
- Mentored 6 research staff, directed staff hiring and training, and modified procedures to cut data loss in half

ASSOCIATE RESEARCH SCIENTIST, YALE UNIVERSITY – 2013-2015

- Developed machine learning algorithms in MATLAB (regularized logistic regression, support vector machine, 2-3 layer neural networks) to decode the temporal order of human mental processes from spatiotemporal patterns of neural activity measured with MRI
- Used parametric and non-parametric hypothesis testing to identify time points and brain regions with signals of interest while controlling for multiple comparisons

LECTURER (ASSISTANT PROFESSOR), UNIVERSITY OF MELBOURNE, AUSTRALIA – 2012-2013

- Delivered a popular series of lectures on human memory presented to a class with enrollment exceeding 1,000

POSTDOCTORAL RESEARCH FELLOW, HARVARD UNIVERSITY – 2009-2012

- 3-year National Institutes of Health fellowship funded by a competitive National Research Service Award
- Developed an analytic approach to control for the effects of eye movements on functional neuroimaging data using subsampling and non-linear multiple regression
- Used parametric hypothesis testing to identify spatially clustered signals controlling for ~500,000 comparisons

EDUCATION

Ph.D. Psychology and Cognitive Neuroscience, *University of California Santa Barbara* – 2003-2009

B.A. Psychology, summa cum laude, *University of Massachusetts Boston* – 1999-2003

SKILLS

LANGUAGES Python, MATLAB, SQL, familiar with R

TOOLS IPython, pandas, NumPy, SciPy, statsmodels, scikit-learn, Matplotlib, seaborn, UNIX

Based in San Francisco

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