Brad Monk Ph.D.

Cognitive Scientist & Director
of Human-A.I. Integration at PSE

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PROFILE

I am the lead scientist of the Al capabilities area at PSE. In this role I help facilitate PSE's strategic goals in implementing Al technology for internal use, along with Al-related contract acquisition and leading or advising on Al/ML projects.

My academic research training was in the field of computational neuroscience, where I developed and published Al/ML models for behavioral neuroscience research.

EDUCATION

Ph.D. Computational Neuroscience
Center for Neural Circuit Behavior
University of California San Diego

M.A. Behavioral Neuroscience
B.S. Molecular Biology
B.A. Psychology
San Diego State University

SKILLS

//TECHNICAL
· Statistics · Machine Learning · AI
· R · MATLAB · Python · Tensorflow
· Numpy · LLM · Prompt Engineering
· UX/UI · Web Dev · Data Visualization
· Computer Vision · Bioinformatics

//GENERAL
· Public Speaking · Presenting
· Technical Writing · Teaching
· Project Management
· Experimental Design
· Consulting · Analysis

HONORS

SDSU Student of the Year
Faculty Selection
Magna Cum Laude
SDSU GPA 3.93
Scientific Publications
bit.ly/BradMonkGoogleScholar
Soccer: All State, Division-1,
Olympic Developmental Team

PROFESSIONAL EXPERIENCE

Scientific Director — Pacific Science — 2020-Now

I am the lead scientist of the Al capabilities area at PSE. In this role I help facilitate PSE's strategic goals in implementing Al technology for internal use, along with Al-related contract acquisition and leading or advising on Al/ML projects.

Data Scientist — Quigg Engineering — 2018-2020

Project head and senior data scientist for a federally-funded (FHWA) research study (the Comprehensive Truck Size & Weight Limits Study). Prepared technical reports detailing impacts of real and theoretical vehicles on transportation infrastructure.

Postdoctoral Scientist — UCSF — 2017-2018

At UCSF medical school I lead bioinformatics Al/ML studies using biomedical data to develop diagnostic, risk assessment, and classification tools.

Cofounder & CTO — OneSci Inc. — 2015-2017

Cofounded health-tech startup focused on addiction. Oversaw the development of 'smart' locking cigarette case that connects to mobile devices via BLE, and iPhone/Android apps used to unlock the case. App implemented cognitive strategies to reduce smoking. Performed sundry cofounder duties: patent writing, fundraising, etc.

Doctoral Research — UCSD

// GENOMICS & BIOINFORMATICS
Used machine learning methods (e.g. neural nets, SVMs, etc.) to identify novel genomic variants that confer protection or risk towards developing Alzheimer's Disease. Trained models on sequencing data from over 10,000 patients and computed polygenic risk.

// COMPUTATIONAL NEUROBIOLOGY
Developed models to explain how memories can persist for time periods far longer than the lifetimes of cellular molecules. 3D simulation of dynamic molecular clustering in synapses FRET 2-photon and glutamate uncaging / LTP experiments in slice cultures.

REFERENCES

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