Brian T. Quinn, Ph.D.

Data Scientist · Neuroscientist

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Education

New York University — *New York, NY*
Ph.D. in Neural Science — *May 2013*
- Coursework: linear algebra, dynamic systems analysis, machine learning, statistics

Harvard University — *Cambridge, MA*
nondegree program — *Jan 2004*
- Coursework: Biostatistics, Neurophysiology

University of Iowa — *Iowa City, IA*
B.S.E. in Biomedical Engineering — *May 2001*
- Coursework: electrical engineering, computer science, statistics

Experience

THE DATA INCUBATOR — *New York, NY*
Data Scientist Fellow — *Jun 2015-Aug 2015*
- Selected from over a thousand applicants to participate in a rigorous two-month fellowship
- Completed numerous projects involving web scraping, SQL, NLP, machine learning, and MapReduce

NEW YORK UNIVERSITY — *New York, NY*
PhD Candidate — *Sep 2006-May 2013*
- Analyzed large human electrophysiology datasets consisting of more than 500,000 samples
- Published and presented results of psychophysical and electrophysiological experiments
- Created novel visualization solutions to facilitate long distance brainstorming
- Developed machine learning software to automatically detect abnormal brain tissue in MR images
- Wrote software to implement Monte Carlo methods and temporal clustering procedures for statistical tests of time-series data collected at high temporal resolution (30kHz)
- Led laboratory sections of 30 students and presented lectures to class sizes of more than 80 students

MARTINOS CENTER FOR BIOMEDICAL IMAGING/HMS/MIT — *Charlestown, MA*
Research Technician — *May 2002-Aug 2005*
- Worked with a team of researchers and developers to create and support FreeSurfer software
- Trained and supported over 200 international researchers through phone, email, and site visits
- Traveled to research sites to install software, train staff, and present methods to new users
- Authored software for various projects to study and quantify cortical and subcortical structures of the human brain

WEILL MEDICAL COLLEGE OF CORNELL UNIVERSITY — *New York, NY*
Image Data Analyst — *Aug 2005-Aug 2006*
- Advised researchers on experimental design using MRI
- Analyzed image datasets for numerous pediatric studies

Technical Skills & Interests

Programming/Scripting Languages — Python, Matlab, R, MapReduce/Hadoop, SQL, Javascript, HTML5, C/C++, bash/tcsh, LaTeX
Subject Matter Interests — Data analysis, machine learning, recommendation systems
Modeling & Analysis — Predictive, nonlinear, neural networks, data mining
Awards — NeuroImage Top Cited Article 2006-2010
Interests & Miscellaneous — Teaching, tutoring, basketball, canoeing NYC waterways

Volunteering

North Brooklyn Community Boathouse — *Brooklyn, NY*
Canoe Instructor & Steering Member — *Jul 2014-Present*
- Supervised the expansion of canoe trips by 50% and the addition of educational programming
- Managed the budget, organization, and maintenance of canoe services for over 300 members

The Fortune Society — *Queens, NY*
Teacher and Tutor — *Dec. 2014 - Present*
- Taught and privately tutored math for formerly incarcerated individuals.

Publications

PUBLICATION HIGHLIGHTS

Intracranial cortical responses during visual-tactile integration in humans — Journal of Neuroscience 2014
Quinn BT, Carlson C, Doyle W, Cash S, Devinsky O, Spence C, Halgren E & Thesen T

An automated labeling system for subdividing the human cerebral cortex on MRI scans into gyral based regions of interest — Neuroimage 2006
Desikan RS, Ségonne F, Fischl B, Quinn BT, Dickerson BC, Blacker D, Buckner RL, Dale AM, Maguire RP, Hyman BT, Albert MS, Killiany RJ

Cortical feature analysis and machine learning improves detection of "MRI-negative" focal cortical dysplasia — Epilepsy & Behavior 2015
Ahmed B, Brodley C, Blackmon K, Kuzniecky R, Barash G, Carlson C, Quinn BT, Doyle W, French J, Devinsky O, Thesen T

Thickness of ventromedial prefrontal cortex in humans is correlated with extinction memory — PNAS 2005
Milad MR, Quinn BT, Pitman RK, Orr SP, Fischl B, Rauch SL

ADDITIONAL PUBLICATIONS

Cortical thickness abnormalities associated with dyslexia, independent of remediation status — Neuroimage Clinical 2014
Functional neuroimaging abnormalities in idiopathic generalized epilepsy — Neuroimage Clinical 2014
Structural brain imaging in children and adolescents following prenatal cocaine exposure: preliminary longitudinal findings — Developmental Neuro 2014
Septal nuclei enlargement in human temporal lobe epilepsy without mesial temporal sclerosis — Neurology 2013
Default mode network abnormalities in idiopathic generalized epilepsy — Epilepsy & Behavior 2012
Individualized localization and cortical surface-based registration of intracranial electrodes — Neuroimage 2011
Individual differences in verbal abilities associated with regional blurring of the left gray and white matter boundary — Journal of Neuroscience 2011
Structural evidence for involvement of a left amygdala-orbitofrontal network in subclinical anxiety — Psychiatry Research 2011
Abnormalities of cortical thickness in postictal psychosis — Epilepsy & Behavior 2011
Hyperfamiliarity for faces — Neurology 2010
Prolonged institutional rearing is associated with atypically large amygdala volume and difficulties in emotion regulation — Developmental Science 2010
Impact of breast milk on intelligence quotient, brain size, and white matter development — Pediatr Res 2010
Regional white matter volume differences in nondemented aging and Alzheimer's disease — Neuroimage 2009
The effect of early human diet on caudate volumes and IQ — Pediatric Research 2008
Detection of cortical thickness correlates of cognitive performance: Reliability across MRI scan sessions, scanners, and field strengths — Neuroimage 2008
A technique for the deidentification of structural brain MR images — Human Brain Mapping 2007
Abnormal cortical folding patterns within Broca's area in schizophrenia: evidence from structural MRI — Schizophrenia Research 2007
Volumetric cerebral characteristics of children exposed to opiates and other substances in utero — Neuroimage 2007
Feasibility of multi-site clinical structural neuroimaging studies of aging using legacy data — Neuroinformatics 2007
Regional cortical thickness matters in recall after months more than minutes — Neuroimage 2006
Selective increase of cortical thickness in high-performing elderly—structural indices of optimal cognitive aging — Neuroimage 2006
Neuroimaging H.M.: a 10-year follow-up examination — Hippocampus 2006
Meditation experience is associated with increased cortical thickness — Neuroreport 2005
Effects of age on volumes of cortex, white matter and subcortical structures — Neurobiology of Aging 2005
Cortical volume and speed-of-processing are complementary in prediction of performance intelligence — Neuropsychologia 2005
Size does matter in the long run: hippocampal and cortical volume predict recall across weeks — Neurology 2004
Sequence-independent segmentation of magnetic resonance images — Neuroimage 2004