Brandon Moore, PhD

Scientist · Educator · Hacker

brandon@insalubrio.us | insalubrio.us | amazing-rando

Education

Vanderbilt University — Nashville, TN
PhD, Neuroscience — 2019
- Advisors: Jon Kaas, Vivien Casagrande
- Dissertation: Explorations of pulvinar circuitry in the northern greater galago (*Otolemur garnettii*)

Tufts University School of Medicine — Boston, MA
MPH, Epidemiology and Biostatistics — 2012
- Thesis: Assessment and recommendations concerning AANE's Life Management Assistance Program

Massachusetts Institute of Technology — Cambridge, MA
BS, Brain and Cognitive Sciences — 2009

Research Interests

Artificial intelligence, biological/computer vision, drug discovery, transhumanism

Professional Experience

1910 Genetics — Cambridge, MA
AI Research & ML Engineering — 2019 — Now
- AI driven small molecule and protein design.

Livingstone Laboratory — Harvard Medical School
Research Assistant — 2011 — 2012
- Trained monkeys (*Macaca mulatta*) in a symbolic addition task.
- Conducted data analysis on behavioral errors in task performance to better understand the monkeys' symbol valuation during addition.

Sinha Laboratory — MIT
Research Assistant — 2007 — 2011
- Collected and analyzed both MEG and EEG data on the high level correlates of human face perception.
- Mentored students on topics of both statistical analysis and computer programming.

Raytheon — Garland, TX
Software Tools Intern — 2005
- Designed and implemented a database solution for the reimbursement of conference, training, and continuing education purchases.

The Computer Hospital — Rowlett, TX
Computer and Printer Repair Technician — 2003 — 2004
- Worked with a team to refurbish or repair HP laser printers and personal computers.

Publications

Moore B, Li K, Kaas JH, Liao CC, Boal AM, Mavity-Hudson J, Casagrande VA. (2018)
Cortical projections to the two retinotopic maps of primate pulvinar are distinct.
The Journal of Comparative Neurology, 527(3):577-588.

Cox MA, Dougherty K, Adams GK, Reavis EA, Westerberg JA, **Moore B**, Leopold DA, Maier A. (2017)
Spiking suppression precedes cued attentional enhancement of neural responses in primary visual cortex.
Cerebral Cortex, 1-14.

Maier A, Cox MA, Dougherty K, **Moore B**, Leopold DA. (2014).
Anisotropy of ongoing neural activity in primate visual cortex.
Eye and Brain, 6:113-120.

Livingstone MS, Pettine WW, Srihasam K, **Moore B**, Morocz IA, Lee D. (2014).
Symbol addition by monkeys provides evidence for normalized quantity coding.
Proceedings of the National Academy of Sciences, 111(18):6822-7.

Conference Presentations

Moore B, Boal A, Mavity-Hudson JA, Liao C, Kaas JH, Casagrande VA (2017).
Cortical projections to the two retinotopic maps of primate pulvinar are distinct. SfN.

Moore B, Boyd JD, Roy OP, Mavity-Hudson JA, Casagrande VA. (2016).
Does the dorsal medial visual area represent a unique target of the koniocellular pathway? SfN.

Moore B, Li K, Mavity-Hudson JA, Casagrande VA. (2015).
A comparison of the synaptic input to visual areas V1 and V2 from primate pulvinar. SfN.

Moore B, Cox MA, Dougherty K, Young MS, Maier A. (2014).
Resting state correlations in visual cortex reflect fluctuations of cortical arousal. SfN.

Moore B, Cox MA, Dougherty K, Young MS, Maier A. (2013).
Laminar profile of state-dependent visually evoked responses in primate visual cortex. SfN.

Cox MA, **Moore B**, Dougherty K, Young MS, Maier A. (2013).
LFP coherence as a function of laminar depth and lateral distances in macaque visual cortex. SfN.

Moore B, Chen M, Lu H, Roe A. (2013).
Functional architecture of the foveal confluence in macaque visual cortex. VSS.

Teaching

Advanced Neurophysiology — Vanderbilt University
Lecturer — 2015, 2016
- Lectured on primate electrophysiology methods and ethics.

Neuroanatomy — Vanderbilt University
Teaching Assistant — 2013
- Lectured on the anatomy of the visual system.
- Guided students through brain dissection labs.

AP Psychology — MIT Educational Studies Program
Instructor — 2008 — 2011
- Supplemented standard text book assignments with readings from more current research articles.
- Guided students in preparing for the AP Psychology exam with weekly study sessions and one-on-one tutoring.

Sensation & Perception — MIT Educational Studies Program
Instructor — 2009
- Developed summer curriculum designed around understanding how sensory systems function by examining how they fail.

STEM Outreach

Metro Nashville Public Schools (ENCORE Program) — Nashville, TN
Lecturer — 2016 — 2019
- Lectured elementary and middle school students on basic neuroanatomy.
- Guided students through dissections of preserved sheep brains.

Dragon Con (Science Track) — Atlanta, GA
Lecturer & Panelist — 2015 — 2017
- Lectured on the intersection of neuroscience and art.
- Panelist on topics including: infectious disease, neuroscience, and optical illusions.
- Guided children through dissections of preserved sheep brains and cow eyes.

Room in the Inn (Hope University) — Nashville, TN
Lecturer — 2015
- Gave introductory lectures on infectious disease, visual perception, and optical illusions.

Service

Neuroscience Student Organization — Vanderbilt University

Academic Officer — 2015, 2016

- Prepared rising graduate students for the qualifying exam process by organizing weekly sessions where both style and content of research presentations were critiqued.
- Tutored students on both neuroscience topics and presentation preparation.

MIT EMS — MIT

Emergency Medical Technician — 2006 — 2009

- Provided basic care and transport for patients in the city of Cambridge.
- Trained new EMS personnel during monthly practice drills.

Medlinks — MIT

Medical Liaison — 2005 — 2009

- Provided first aid to residents of dorm.
- Worked with dorm housemaster to spread awareness of mental health facilities on campus.

Honors & Awards

2016, 2017 **Travel Award**, Vanderbilt Kennedy Center
2014 **Associate**, SfN Neuroscience Scholars Program
2013 **Travel Award**, Fine Science Tools
2013 — 2015 **Travel Grant**, Vanderbilt Graduate Student Council

Skills

Coding C, Common Lisp, Java, Perl, PHP, **Python**, R, SQL
Libraries dlib, Keras, OpenCV, Pillow, PsychoPy, PyTorch, RD-Kit, SciKit-Learn, SciPy, spaCy, TensorFlow
Applications Adobe Creative Suite, EAGLE, Fusion 360, Git, LaTeX, MATLAB, MOE, Open Babel, SAS, SPSS
Laboratory Primate & rodent neurosurgery, Electrophysiology, MEG/EEG, Electron Microscopy