Garrett Honke—Cognitive Neuroscientist

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EDUCATION

- **Binghamton University (SUNY)** — Binghamton, New York
  PhD, MSc in Cognitive and Brain Sciences — *2012–2017*
- **University of Texas at Austin** — Austin, Texas
  BA in Psychology; Minor in Spanish — *2004–2008*

EXPERIENCE

- **Graduate Student—Binghamton University** — 2012–2017
  Learning and Representation in Cognition Laboratory; Brain and Machine Laboratory — *Binghamton, New York*
  - **Empirical Research—Behavioral and Cognitive Neuroscience**: Designed, implemented, and published behavioral and neuroscience research studies focused on category learning and classification, knowledge transfer, analogical reasoning, and similarity. MSc work examined how humans use prior knowledge to solve new problems. PhD work investigated the behavioral and electrophysiological patterns underlying human similarity judgments and category knowledge.
  - **Machine Learning and Cognitive Modeling**: Extensive coursework and research on cognitive modeling and machine learning with a focus on model representation and visualization. A component of this work is included in the open-source `catlearn` package written in `R` and `C++`.
  - **Teaching**: Developed and taught undergraduate-level courses on statistics, research methods, scientific writing and cognitive and perceptual science. Student course evaluations available by request.
  - **Laboratory Administration**: Managed laboratory operations including experiment development, database administration and security, research assistant recruiting and mentoring, and data collection and analysis.

- **Adult Research Coordinator—Northwestern University** — 2010–2012
  Cognition and Language Laboratory — *Evanston, Illinois*
  - **Empirical Research—Analogical and Spatial Reasoning, Diagramming, and Language**: Developed and implemented cognitive research studies focused on language, learning, similarity, and reasoning.
  - **Grant Administration**: Developed and managed multi-million dollar budget, assisted with proposal development and grant compliance.
  - **Institutional Review Board Compliance**: Managed IRB compliance for multiple child and adult research studies; produced study IRBs, recruiting materials and review documents.
  - **Personnel Management**: Hired and trained a team of researchers for experiment administration and technical projects, mentored undergraduate researchers, and supervised payroll.

- **Bicycle Mechanic (Volunteer)—The Recyclery Collective** — 2010–2012
  Non-profit, community-focused bike shop — *Chicago, Illinois*

- **ESL Teacher (Volunteer)—LifeWorks** — 2007–2010
  Non-profit family advocacy and general support agency — *Austin, Texas*

TECHNICAL PROFICIENCIES

- **Languages:**
  Expert: R, Python, Matlab, Markdown   **Proficient:** JavaScript/HTML/CSS, C++, SQL

- **Technologies**: Linux, LaTeX, Docker, Jupyter, AWS, Git, Psychopy, Psychtoolbox, EEGLab/ERPLab, EEG data collection, Microcontroller project design (IoT), Adobe Creative Suite

PROJECTS

- **Catlearn DIVA**: Primary developer of the DIVergent Autoencoder artificial neural network included in `catlearn`—the open-source `R` package created for the formal modeling of human categorization and learning. Available on CRAN.
- **Catlearn Supplementals**: `catlearn.suppls` is an extension of the `catlearn` environment designed to 1) facilitate the rapid development of parallelized machine learning solutions and 2) prototype experimental architectures motivated by the broad cognitive modeling and machine learning goals of the LaRC Lab. Available on GitHub (sole developer).
- **Experiment Development**: Extensive development experience in human research and data collection; experiments built from scratch and with the `Psychopy` (Python), `Psychtoolbox` (Matlab), and `jsPsych` (HTML/CSS/JavaScript) environments. Samples on Github.