Nhat Minh Le

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- ❖ Inter-disciplinary research interests combining strengths in neuroscience and statistics
- ❖ Passionate about applications of machine learning in decision-making, behavioral models and biotech research

EDUCATION

2017-present **PhD Student, Brain and Cognitive Sciences and Statistics**
Massachusetts Institute of Technology, Cambridge MA, GPA: 5.0/5.0
Thesis Topics: behavioral and neural data analysis in animal models, state-space analysis of behavioral strategies in reinforcement learning, unsupervised analysis and manipulation of neural ensembles.

2017 **BS, Biology and Computer Science (minor)**
California Institute of Technology, Pasadena CA, GPA: 4.2/4.3

TECHNICAL SKILLS

- **Data science:** Machine learning (deep neural networks, reinforcement learning, Tensorflow, Pytorch, decision trees, gradient boosting), predictive coding, Bayesian inference, generalized linear models, Hidden Markov Models
- **Cloud infrastructure:** AWS – S3, Glue, Lambda, RDS
- **Programming:** MATLAB, Python, SQL, R, Mathematica
- **Web:** HTML, Javascript, web scraping and API integration

WORK EXPERIENCE

Nov 2021 – Present *Data consultant*, Findigs *New York, NY*
- Implemented efficient data ETL pipelines on AWS cloud database: combined structured and unstructured data sources, optimized S3 storage and file formats for efficient SQL queries.
- Created neural network and decision-tree models for an improved recommendation engine based on applicant risk assessment.
- Initiated efforts to implement explainable AI metrics to ensure fair and transparent decision-making.

Oct 2021 *Data scientist,* Weave *New York, NY*
- Implemented network and data analytics tools combining multiple data streams to gain insights into employee communication and collaboration patterns.
- Developed predictive models to guide hiring decisions from historical hiring data and parameters.
- Integrated data from Microsoft Teams, Slack, Google calendar, deployed models on a web application.

2017 – 2021 Laboratory of Prof. Mriganka Sur, MIT Department of Brain and Cognitive Sciences *Cambridge, MA*
- Developed reinforcement learning models to understand reward-guided decision-making in rodents.
- Built a generalized linear model to identify neural ensembles that code for task-relevant variables.
- Coordinated an interdisciplinary research team combining interests in imaging technologies and behavioral analysis.
- Deliverables: 1 first-authored paper, 1 review paper, 4 conference presentations.

2019 Center for Brains, Minds and Machines Summer School *Woods Hole, MA*
- Selected as one of 30 students (out of ~300 students) for a 3-week intensive course on computational neuroscience, machine learning and artificial intelligence systems.
- Collaborated with scientists in neuroscience, cognitive and computational neuroscience to build a reinforcement learning agent that learns to perform a multi-stage navigation task.

2015 – 2017 Laboratory of Prof. Carlos Lois, Caltech Department of Biology *Pasadena, CA*
- Programmed a MATLAB interface for automated motion tracking of zebra finches.
- Developed a neural network-based software for automated detection of song syllables.

OTHER EXPERIENCE

2020 – 2021 **Organizer,** *Computational tutorials series for Brain and Cognitive Sciences*
- Led department-wide computational tutorial series with lectures and hands-on coding exercises.
- Identified key areas of interest, invited guest speakers, organized and recorded lecture materials.

2020 **Teaching Assistant**, *9.60 Machine-motivated human vision, Spring 2020*
- Developed deep neural network tutorials for MIT undergraduates.
- Supervised projects that combined machine-learning and human behavioral tasks.

2018 **Teaching Assistant,** *9.520 Statistical Learning Theory and Applications, Fall 2018*
- Led tutorials and office hours for an advanced graduate machine learning class at MIT.
- Mentored and evaluated advanced projects in machine learning and statistical learning.