

Jun Seok Lee

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Nationalities: USA | France

Summary

Recent PhD graduate and postdoctoral researcher with expertise in cognitive science, machine learning/artificial intelligence, and software development. Skilled in developing and deploying scalable models, analyzing complex datasets, and collaborating with interdisciplinary teams. Strong programming foundation (Python, MATLAB, JavaScript) and proven ability to translate theoretical insights into actionable solutions.

Experience

Postdoctoral Researcher – *École normale supérieure* – 10/2023 : 11/2024

- Investigated neural network models performing cognitive tasks under uncertainty, optimizing performance for scalability and generalization.
- Developed and validated representational similarity measures for neural activations using Pytorch.
- Collaborated with multidisciplinary teams to design experiments, analyze results, and generate actionable insights.

Ph.D Researcher – *INSERM* – 10/2019 : 10/2023

- Designed and implemented Bayesian and reinforcement learning models to analyze human sequential behavior, focusing on practical applications for mental health.
- Conducted large-scale online cognitive experiments with over 1,000 participants, deploying and scaling applications on cloud platforms to ensure reliability and accessibility.

Teaching Assistant – *École normale supérieure* – 10/2019 : 10/2022

- Delivered hands-on training for 20+ Master's students on cognitive control, decision-making, and model development using Python and MATLAB.

Research Assistant – *CERN* – 06/2015 : 05/2016

- Filtered and analyzed particle collision data for the Compact Muon Solenoid project
- Contributed to the optimization of data pipelines for processing petabyte-scale datasets.

Education

Ph.D | Cognitive Science – *École Normale Supérieure*, Paris, France – 09/2023

M.Sc | Cognitive Science – *École Normale Supérieure*, Paris, France – 06/2019

M.Sc | Applied Physics – *Université Pierre et Marie Curie*, Paris, France – 06/2018

B.Sc | Theoretical Physics, Mathematics – *Rutgers University*, NJ, USA – 01/2017

Selected Publications

- A Domain-general strategy for hidden-state Inference in humans and noisy neural networks.
Cognitive Computational Neuroscience (2024).
- Compulsivity is linked to suboptimal choice variability but unaltered reinforcement learning under uncertainty.
Nature Mental Health (2024).
- Adaptive tuning of human learning and choice variability to unexpected uncertainty.
Science Advances (2023).
- Controllability boosts neural and cognitive signatures of changes-of-mind in uncertain environments.
eLife (2022).
- Interacting with volatile environments stabilizes hidden-state inference and its brain signatures.
Nature communications (2021).

Skills

Python
MATLAB
JavaScript
SQL
R
Git
Jupyter
Pytorch
Bayesian Inference
Reinforcement Learning
Data Visualization
Project Management