Jin Hwa Lee

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EDUCATION

Sainsbury Wellcome Centre, UCL   London

Ph.D in Neuroscience, Supervisor: Andrew Saxe   Sep.2022–

Technical University of Munich   Munich

M.Sc. in Neuroengineering, GPA: 1.2   Oct.2019–Feb.2022

Korea Advanced Institute of Science and Technology (KAIST)   Daejeon

B.Sc. in Physics, GPA: 3.90 (Top 4.5%)   Mar.2015–Aug.2019

PUBLICATIONS AND PREPRINTS WITH LINKS

[1]   S. Schneider*, **J. H. Lee***, and M. W. Mathis, "Learnable latent embeddings for joint behavioral and neural analysis", in *Nature*, 2023.

[2]   L. Servadei*, **J. H. Lee**, J. Arjona-Medina, M. Werner, S. Hochreiter, W. Ecker, and R. Wille, "Deep Reinforcement Learning for Optimization at Early Stage", in *IEEE Design & Test of Computers*, 2022.

[3]   K. S. Mann*, S. Schneider*, A. Chiappa, **J. H. Lee**, M. Bethge, A. Mathis, and M. W. Mathis, "Out-of-distribution generalization of internal models is correlated with reward", in *Self-Supervision for Reinforcement Learning Workshop-ICLR 2021*, 2021.

RESEARCH EXPERIENCE

Saxe Lab, UCL   London

supervised by *Andrew Saxe, Stefano Sarao Mannelli*   Apr.2023–

  – Learning dynamics in multi-step reinforcement learning under the different curriculum learning strategies

Hofer Lab, UCL   London

Rotation, supervised by *Sonja Hofer*   Jan.2023–Mar.2023

  – A role of median raphe region on exploration-exploitation tradeoff during a probabilistic decision-making task in mice

Mathis Lab, EPFL   Geneva

Master Thesis, supervised by *Mackenzie Mathis*   Apr.2021–Feb.2022

  – A novel representation learning method leveraging contrastive learning to jointly model neural activity and behavioral recording

Bethge Lab, MPI IS & Mathis Lab, EPFL   Tübingen, Geneva

Research Internship, supervised by *Mackenzie Mathis, Matthias Bethge*   Sep.2020–Mar.2021

  – Self-supervised learning on adaptive mechanism of reinforcement learning (RL) agent

Macke Lab, TUM   Munich

Research Internship, supervised by *Jakob Macke*   Feb.2020 –Apr.2020

  – Domain invariant variational auto-encoder(VAE) for disentangled representation learning

Scholarships and Awards

- 1st Prize, TUM Science Hackathon   Apr.2021
  TryCycle: App applying computer vision to assist recycling and upcycling
- 1st Prize, IEEE Brain BCI Designer Hackathon   Jul.2020
  VibeLight: Real time measurement, visualization and feedback of attention using BCI
- DAAD Scholarship for Master Study   Sep.2020-Oct.2021

- National Science and Engineering Undergraduate Scholarship   Mar.2017-Feb.2019

Educational Works

BonEcole. Inc   Seoul

Co-Founder   Sep.2021-Feb.2022

- I contributed in co-founding BonEcole, an online learning platform for African schoolers. We attempt to give more equal educational opportunity to everyone by building accessible online learning resource adapted to the user environment in Africa. We raised $70,000 seed funding and currently in rapid web development phase

Technical University of Munich   Munich

Teaching Assistant   May.2020-Jul.2020

- Machine Learning: Methods and Tools
- Updating lecture materials and tutoring exercises

Connect Foundation   Seoul

Educational Volunteer   June.2016-Jan.2019

- I contributed as a translator and translation mentor in Connect Foundation to promote equal education opportunity to everyone in Korea. See my interview (Korean) as a honored volunteer

Skills

- **Programming languages** Python, Julia, bash
- **Frameworks and Tools** Pytorch, JAX, Slurm, Git,