

EDUCATION

Technical University of Munich

M.Sc. in Neuroengineering, GPA: 1.2

Munich

Oct.2019–Feb.2022

Korea Advanced Institute of Science and Technology (KAIST)

B.Sc. in Physics, GPA: 3.90 (Top 4.5%)

Daejeon

Mar.2015–Aug.2019

- Graduated with honors *magna cum laude*
- Thesis: Studies in spatial entropy of art paintings

PUBLICATIONS AND PREPRINTS

- [1] S. Schneider*, **J. H. Lee***, and M. W. Mathis, “Learnable latent embeddings for joint behavioral and neural analysis”, *Under review*.
- [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

Mathis Lab, EPFL

Master Thesis

Geneva

Apr.2021-Feb.2022

- Supervised by *Prof. Mackenzie Mathis, PhD candidate Steffen Schneider*
- Representation learning on neural/behavioral data
- We developed CEBRA, a novel representation learning method to jointly model neural activity and behavioral recording

Mathis Lab, EPFL & Bethge Lab, Uni.Tübingen

Research Internship

Geneva, Tübingen

Sep.2020–Mar.2021

- Supervised by *Prof. Mackenzie Mathis, Prof. Matthias Bethge, PhD candidate Steffen Schneider*
- Self-supervised learning on adaptive mechanism of reinforcement learning (RL) agent
- We applied self-supervised learning, specifically contrastive predictive coding, on RL agent state in adaptive learning task and found a correlation between out-of-distribution performance and reward drop

Macke Lab, TUM

Research Internship

Munich

Feb.2020-Apr.2020

- Supervised by *Prof. Jakob Macke*
- Domain invariant variational auto-encoder (VAE)
- We investigated different variants of VAE to study disentanglement between domain property and domain invariant property

Infineon

Applied Machine Learning Team, Working Student

Munich

Jul.2019-Feb.2020

- Combinatorial optimization of hardware/software with deep reinforcement learning
- We applied different reinforcement learning algorithms, including RUDDER with reward redistribution approach, to improve combinatorial optimization problem in designing chips

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
Awarded approx. 12,000 €
- National Science and Engineering Undergraduate Scholarship Mar.2017–Feb.2019
Awarded approx. 13M ₩ (10,200 €)

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 (EI 71040)
- 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, MATLAB, bash
- **Frameworks and Tools** Pytorch, Keras, Git, Slurm