Luca Trautmann

Prospective PhD Student

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https://www.github.com/llctrautmann

Summary

Prospective ML Ph.D. student with a broad interdisciplinary background in Biology, Psychology, and Informatics. My main areas of interest are probabilistic machine learning algorithms for non-trivial problems. I am currently working on generative machine learning solutions for uncertainty estimation in image upsampling pipelines within low-field magnetic resonance imaging.

Skills

Machine Learning • Data Science • Python • Rust • R • Pytorch • Bash shell scripting

Work Experience

Research Intern
Feb 2021 – Jul 2021 • 5 mos

University of Groningen • Internship

Groningen, Netherlands

Technologies: R studio • R • Exploratory data analysis

Participated in a collaborative effort for an MSc. Project involving a Meta-Analysis focused on the Thought Suppression Literature within Clinical Psychology. Engaged in extensive research synthesis and statistical analysis to contribute meaningful insights to the understanding of thought suppression in the clinical psychology domain.

Research Intern
Sep 2019 – Jul 2020 • 10 mos

University of Groningen • Internship

Groningen, Netherlands

Technologies: Spss

Led the conceptualization, development, and implementation of a research project within the domain of social psychology, investigating the impact of digital pathfinding devices on the formation of mental maps. Executed a comprehensive study to explore the psychological effects of these devices, contributing valuable insights to the intersection of technology and cognitive processes.

Coat Checker
Aug 2015 – Jul 2016 • 11 mos

Pimpernel Night Club • Part-time

Munich, Germany

Student Job in the Hospitality Sector

Projects

Super Resolution and Uncertainty Quantification Model for MRI Data
Dec 2023 – present

Technologies: Python • Pytorch • Keras • Rust

Engaged in foundational efforts for a Super-resolution model designed for image upsampling in low-field MRI as part of my prospective doctoral research at the University of Sussex. Actively developing innovative ideas and initiating initial code implementations for the PhD program.

Audio Phase Reconstruction with Deep Learning Model
May 2023 – Jan 2024 • 8 mos

Technologies: Python • Pytorch

Master's Dissertation Project: Spearheaded the creation of corresponding phase spectrograms for generated magnitude spectrograms by leveraging a Deep Neural Network (DNN) adaptation of the Griffin-Lim Algorithm. This pioneering work aimed to facilitate the synthesis of audible sound in the realm of ecoacoustics.

Longitudinal Study on the Effects of Workplace Interruptions on Flow States Sep 2020 – Jun 2021 • 9 mos
Technologies: R studio

Bachelor's Dissertation Project: Orchestrated the creation of a tailored questionnaire and conducted-data analysis to examine the moderating influence of digital information overload on the reduction of flow states induced by workplace interruptions. This research endeavor shed light on the complex interplay between information saturation and interruptions in the workplace environment.

Education

Master's degree: Artificial Intelligence and Adaptive Systems Sep 2022 – Jan 2024 • 1 yr 4 mos
University of Sussex

Brighton, United Kingdom

Grade/GPA: 76

Machine Learning, Adaptive Systems, Artificial Life, Algorithmic Data Science, Image Processing, Mathematics and Computational Methods for Complex Systems

Pre-Master : Psychology (Behavioural Data Science) Feb 2022 – Jul 2022 • 5 mos
University of Amsterdam

Amsterdam, Netherlands

Grade/GPA: 8.75

Bayesian Statistics, Programming in R, ML and Multivariate Statistics

Honours Bachelor's Degree: Psychology Sep 2018 – Sep 2021 • 3 yrs
University of Groningen

Groningen, Netherlands

Grade/GPA: 8.3

Social Psychology with Focus on Leadership and Flow Research

Foundation: Biology Sep 2016 – Aug 2018 • 1 yr 11 mos
Ludwig-Maximilian-Univeristy

Munich, Germany

Biochemistry, Organic Chemistry, Inorganic Chemistry, Physics

Certifications & Awards

Summer School in Supervised Machine Learning - University of Oxford   Aug 2022

Languages

German (Native or bilingual proficiency)

English (Professional working proficiency)