

# Daolang Huang

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## Summary

I am a third-year PhD student at Aalto University, my research primarily focuses on amortized inference, leveraging neural networks to expedite various Bayesian inference tasks, with a strong interest in Bayesian experimental design, Bayesian optimization, simulation-based inference, and meta-learning, I am passionate about exploring and developing innovative methods to enhance model efficiency in complex inferential processes.

## Education

### Aalto University

July 2022 – present

*PhD, Doctoral programme in Science.*

- GPA: 5/5
- Supervisors: Prof. [Samuel Kaski](#) (Aalto University and The University of Manchester), Prof. [Luigi Acerbi](#) (University of Helsinki)
- Fully funded by Finnish Center for Artificial Intelligence ([FCAI](#))

### Aalto University

Sept 2020 – May 2022

*MSc, Machine Learning, Data Science and Artificial Intelligence.*

- GPA: 4.68/5 (Major 5/5)
- Master thesis: Bayesian Optimization Augmented with Actively Elicited Expert Knowledge

### Jinan University

Sept 2016 – July 2020

*BSc, Computer Science and Technology.*

- GPA: 87/100 (Major 89/100)
- Bachelor thesis: Multi-Modal Fusion for Fake News Detection

## Publications

### Conference papers

1. Xinyu Zhang\*, **Daolang Huang\***, Samuel Kaski and Julien Martinelli. “PABBO: Preferential Amortized Black-Box Optimization”. In *The 13th International Conference on Learning Representations (ICLR)*, 2025. **Spotlight (Top 5.1%)**
2. Paul Chang\*, Nasrulloh Loka\*, **Daolang Huang\***, Ulpu Remes, Samuel Kaski and Luigi Acerbi. “Amortized Probabilistic Conditioning for Optimization, Simulation and Inference”. In *The 28th International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2025.
3. Ayush Bharti, **Daolang Huang**, Samuel Kaski and F.X Briol, “Cost-Aware Simulation-Based Inference”. In *The 28th International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2025.
4. **Daolang Huang**, Yujia Guo, Luigi Acerbi and Samuel Kaski. “Amortized Bayesian Experimental Design for Decision-Making”. In *Proceedings of the 37th International Conference on Neural Information Processing Systems (NeurIPS)*, 2024.
5. **Daolang Huang\***, Ayush Bharti\*, Amauri Souza, Luigi Acerbi and Samuel Kaski, “Learning Robust Statistics for Simulation-based Inference under Model Misspecification”. In *Proceedings of the 36th International Conference on Neural Information Processing Systems (NeurIPS)*, 2023.
6. **Daolang Huang**, Manuel Haussmann, Ulpu Remes, *et al.* “Practical Equivariances via Relational Conditional Neural Processes”. In *Proceedings of the 36th International Conference on Neural Information Processing Systems (NeurIPS)*, 2023.

7. Runkai Zheng, Yinqi Zhang, **Daolang Huang** and Qingliang Chen. “Sequential convolution and runge-kutta residual architecture for image compressed sensing”. In *European Conference on Computer Vision (ECCV)*, 2020.

## Workshop papers

1. **Daolang Huang**, Yujia Guo, Luigi Acerbi and Samuel Kaski. “Amortized Decision-Aware Bayesian Experimental Design”. In *NeurIPS 2024 Workshop on Bayesian Decision-making and Uncertainty (NeurIPS-BDU)*, 2024.
2. **Daolang Huang**, Louis Filstroff, Petrus Mikkola, Runkai Zheng, Milica Todorovic and Samuel Kaski. “Augmenting Bayesian Optimization with Preference-based Expert Feedback”. In *ICML 2023 Workshop The Many Facets of Preference-Based Learning (ICML-MFPL)*, 2023.
3. **Daolang Huang** and Ricardo Falcon Perez. “Sseldnet: a fully end-to-end sample-level framework for sound event localization and detection”. In *Detection and Classification of Acoustic Scenes and Events (DCASE)*, 2021.

## Preprints

1. **Daolang Huang**, Louis Filstroff, Petrus Mikkola, Runkai Zheng and Samuel Kaski. “Bayesian Optimization Augmented with Actively Elicited Expert Knowledge”. *arXiv:2208.08742*, 2022.

\*Equal contribution

## Experience

### Doctoral Researcher

Aalto University

Espoo, Finland

July 2022 – Present

- Position-based doctoral researcher in Probabilistic Machine Learning Group (Aalto University) and Machine and Human Intelligence group (University of Helsinki)
- Topic: Amortized Bayesian inference

### Thesis Worker

Aalto University

Espoo, Finland

Oct 2021 – May 2022

- Master thesis worker in Probabilistic Machine Learning Group (PML), supervised by Prof. Samuel Kaski
- Topic: Human-in-the-Loop Bayesian Optimization

### Summer intern

Aalto University

Espoo, Finland

June 2021 – Aug 2021

- Summer intern in Probabilistic Machine Learning Group (PML), supervised by Prof. Samuel Kaski and Dr. Louis Filstroff
- Topic: Targeted-aware Bayesian active learning

### Startup Founder & Manager

EDM Heaven

Guangzhou, China

Feb 2017 – Aug 2020

- Specialized in customized music services for musicians and producers, including mixing and mastering, catering to diverse client requirements and genres

### Summer Intern

Neuedu Education Technology Co., Ltd.

Guangzhou, China

June 2019 – Aug 2019

- Summer intern, Python developer

## Skills

**Languages:** English (C1), Mandarin (native), Finnish (basic)

**Programming:** Python, Java, C, R

**Data Science:** Pytorch, Jax, sklearn, scipy, numpy, pandas, ...

## Teaching

**Summer Intern Supervisor**, Xinyi Wen, *Aalto University*, Summer 2024.

**Master’s Thesis Supervisor**, Xinyu Zhang, *Aalto University*, Spring 2024.

**Bachelor's Thesis Supervisor**, Filip Eller, *Aalto University*, Spring 2024.  
**Bachelor's Thesis Supervisor**, Petrus Nikoskinen, *Aalto University*, Spring 2024.  
**Teaching Assistant**, Deep learning, *Aalto University*, Spring 2024.  
**Tutor**, Seminar in computer science, *Aalto University*, Autumn 2023.  
**Teaching Assistant**, Deep learning, *Aalto University*, Spring 2023.  
**Teaching Assistant**, Deep learning, *Aalto University*, Spring 2022.  
**Teaching Assistant**, C Programming, *Jinan University-University of Birmingham Joint Institute*, Spring 2020.

## Events

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**Poster**, *NeurIPS 2024*, December 2024.  
**Poster and Photographer**, *FCAI AI day + Nordic AI Meet*, October 2024.  
**Poster**, *NeurIPS 2023*, December 2023.  
**Poster**, *ELLIS Unit Helsinki pre-NeurIPS Fest 2023*, December 2023.  
**Talk**, *Mathematical perspective on machine learning seminar*, *University of Helsinki*, November 2023.  
**Talk**, *FCAI AI day*, November 2023.  
**Poster**, *ELLIS RobustML Workshop*, September 2023.  
**Poster and Talk**, *ELLIS Doctoral Symposium 2023*, August 2023.  
**Poster**, *ICML 2023 workshop The Many Facets of Preference-based Learning*, July 2023.

## Academic Services

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NeurIPS 2024, AISTATS 2025, ICLR 2025, ICML 2025

## Awards and Achievements

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**Top 3 Nominee for AI Researcher of the Year**, AI Finland, 2024.  
**Dean's List Scholarships**, Aalto university, 2021.  
**International Talent Program**, Aalto University, 2021.  
**Aalto University Scholarship (100% tuition waiver)**, Aalto University, 2020.  
**Second-class Scholarship for Outstanding Students**, Jinan University, 2019.  
**First-class Scholarship for Outstanding Students**, Jinan University, 2018.  
**Third-class Scholarship for Outstanding Students**, Jinan University, 2017.