

# Yifan Zhu

✉ [yifan.zhu@aalto.fi](mailto:yifan.zhu@aalto.fi) | 🏠 [www.yifan-zhu.com](http://www.yifan-zhu.com)

## Education

---

### Aalto University & The University of Manchester

*Finland & U.K.*

ELLIS PH.D. STUDENT IN COMPUTER SCIENCE

*Sep. 2023 - Present*

- **Topic:** [Computational Rationality in AI-Assisted Decision Making](#)
- **Supervision:** supervised by Prof. [Samuel Kaski](#), co-supervised by Dr. [Mingfei Sun](#) and Prof. [Antti Oulasvirta](#).

### Aalto University

*Espoo, Finland*

M.SC. IN COMPUTER SCIENCE (WITH HONOURS)

*Aug. 2021 - Jul. 2023*

- **Track:** Algorithm, Logic, and Computation
- **Minor:** Machine Learning, Data Science and Artificial Intelligence
- **Average grade:** 4.92 / 5.0
- **Master Thesis:** Interactive Personalization for Explainability via Human-in-the-loop Multi-Objective Bayesian Optimization, supervised by Prof. [Antti Oulasvirta](#).

### University of Edinburgh

*Edinburgh, U.K.*

VISITING STUDENT TO SCHOOL OF INFORMATICS

*Sep. 2019 - Dec. 2019*

- **Nominated by home university**
- **Courses taken:** Introductory Applied Machine Learning: 84% (A), Database Systems: 71% (A), Software Design and Modelling: 64% (B).

### Nanjing University of Aeronautics and Astronautics

*Nanjing, China*

B.ENG. IN COMPUTER SCIENCE AND TECHNOLOGY

*Sep. 2017 - Jun. 2021*

- **GPA:** 4.0 / 5.0
- **Weighted Average Mark:** 90%
- **Ranking:** 7/137

## Professional Experience

---

- Sep.2023-  
Present **Doctoral Researcher**, Probabilistic Machine Learning group, Aalto University
- Feb.2023-  
May.2023 **Research Assistant**, Computational Behavior Lab, Aalto University
- Jun. 2022-  
Dec.2022 **Thesis Worker**, Computational Behavior Lab, Aalto University
- Oct. 2020-  
Jan.2021 **Consulting SAP Intern**, Accenture

## Publications

---

### PUBLISHED

Suyog Chandramouli\*, **Yifan Zhu**\*, Antti Oulasvirta. 2023. Interactive Personalization of Classifiers for Explainability using Multi-Objective Bayesian Optimization. In Proceedings of the 31st ACM Conference on User Modeling, Adaptation and Personalization (UMAP '23). Association for Computing Machinery, New York, NY, USA, 34–45.

Yun Du, Xin Guo, Chenyang Shi, **Yifan Zhu**, Bohan Li. 2018. DSDCS: Detection of Safe Driving via Crowd Sensing. In Proceedings of the 14th International Conference on Advanced Data Mining and Applications (ADMA'18). 170-177.

## Scientific Activities

---

### PRESENTATIONS

Jun. 2023. *Interactive Personalization of Classifiers for Explainability using Multi-Objective Bayesian Optimization*. UMAP'23, Limassol, Cyprus.

## POSTERS

Aug. 2023. *Interactive Personalization of Classifiers for Explainability using Multi-Objective Bayesian Optimization*. ELLIS Doctoral Symposium 2023, Helsinki, Finland.

Apr. 2023. *Interactive Personalization of Classifiers for Explainability using Multi-Objective Bayesian Optimization*. HelsinCHI Symposium 2023, Helsinki, Finland.

## Research Experience

---

### **Personalized Text-to-Image Generation with Bayesian Optimization**

*Espoo, Finland*

RESEARCH ASSISTANT, SUPERVISOR: PROF. ANTTI OULASVIRTA, ADVISOR: DR. SUYOG

*Jan. 2023 - Jul. 2023*

CHANDRAMOULI

- Objective: Provide users with personalized Large language models to generate aesthetically preferred images.
- Designed, implemented, and conducted a pilot study to evaluate feasibility.

### **Interactive Personalization for Explainability via Human-in-the-loop Multi-Objective Bayesian Optimization**

*Espoo, Finland*

MASTER'S THESIS, SUPERVISOR: PROF. ANTTI OULASVIRTA, ADVISOR: DR. SUYOG CHANDRAMOULI

*Jun. 2022 - Dec. 2022*

- Proposed a general framework to personalize a black-box model with Human-in-the-loop and Multi-Objective Bayesian Optimization.
- Designed and implemented a case study in Explainable Machine Learning for evaluating the proposed personalization framework.
- Conducted a user study with 12 participants for evaluating the efficacy of our framework in the case study.
- Published a paper to **UMAP 2023** as a co-first author.

### **Computation Offloading in Edge Computing of Industrial Internet based on Deep Reinforcement Learning**

*Nanjing, China*

GRADUATION THESIS, SUPERVISOR: PROF. KUN ZHU

*Jun. 2020 - Jun. 2021*

- Formulated a multi-objective computation offloading optimization problem in Industrial Internet.
- Implemented a Deep Reinforcement Learning algorithm with PyTorch to solve each subproblem to obtain the pareto front: adopted pointer network and attention mechanism to model the problem and dynamically adapt to problem setting; adopted Actor-Critic method to train the pointer network.
- Done several simulations with two problem settings and three different trained DRL model to analyze the results and validate the algorithm's performance.
- Marked as 94% from the supervisor; Marked as 90% from the reviewer.

### **Internet Word-of-Mouth Analysis in data mining insight**

*Nanjing, China*

GROUP MEMBER IN MATHEMATICAL CONTEST IN MODELING 2020, SUPERVISOR: A.PROF. JIE WEN

*Mar. 2020*

- Group's work: provided online sales strategy and identified critical design features based on the analysis of reviews and ratings by utilizing NLP, SVM, Autoregressive moving average model, and Elastic Net Regression.
- Utilized the combination of pretrained fastText word embedding and support vector machine classifier to predict the sentiment score of each word in the reviews.
- Awarded to be Meritorious Winner.

### **Network Quality Data Analysis Based on Big Data and Artificial Intelligence Technology**

*Nanjing, China*

GROUP LEADER OF STUDENT RESEARCH TRAINING PROGRAM, SUPERVISOR: PROF. KUN ZHU

*Jan. 2019 - Sep. 2019*

- Objective: Collect data of network quality by studying incentive mechanism and adopting USRP. Construct a network quality real-time visualization map with Singular Value Thresholding algorithm. Predict network quality and analyze network fault based on AI.
- Developed an Android APP with Reverse Auction Technology and MySQL for data collection.
- Obtained a software copyright.

## Detection of Safe Driving Via Crowd Sensing

Nanjing, China

GROUP MEMBER OF STUDENT RESEARCH TRAINING PROGRAM, SUPERVISOR: A.PROF. BOHAN LI

Dec. 2017 - Sep. 2018

- Objective: Detect and predict extreme driving behaviors by utilizing Crowd-Sensing, Bayesian Decision Theory, and Neural Networks.
- Studied Crowdsourcing, Incentive Mechanisms, and Bayesian Decision Theory; Assisted with APP front-end development.
- Co-published a paper in the proceedings of the International Conference on Advanced Data Mining and Applications 2018.

## Awards, Fellowships, & Grants

---

2022	<b>M.Sc. Thesis Grant</b> , Foundation for Aalto University Science and Technology	<i>Espoo, Finland</i>
2021	<b>College Outstanding Graduate</b> , Nanjing University of Aeronautics and Astronautics	<i>Nanjing, China</i>
2020	<b>Meritorious Winner</b> , Mathematical Contest In Modeling 2020	<i>U.S.A</i>
2018-2020	<b>Excellent Student Scholarship – First Prize</b> , Nanjing University of Aeronautics and Astronautics	<i>Nanjing, China</i>
	<b>Academic Scholarship – First Prize</b> , Nanjing University of Aeronautics and Astronautics	<i>Nanjing, China</i>
2018	<b>National Scholarship</b> , Ministry of Education of P.R.China	<i>China</i>