

Junhyung Park

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Education

- Nov.2019– May.2024 **PhD in Machine Learning**, *Empirical Inference Department, Max Planck Institute for Intelligent Systems*, Tübingen, Germany
Thesis: “A Measure-Theoretic Axiomatisation of Causality and Kernel Regression”, supervised by **Krikamol Muandet** and **Bernhard Schölkopf**
- Sep.2017 – Aug.2019 **MSc in Statistics**, *Seminar für Statistik, Dept. of Mathematics, ETH Zürich*, Switzerland
Thesis: “Kernel Measures of Conditional Dependence”, supervised by **Sara van de Geer**
Brownian Motion and Stochastic Calculus, Fundamentals of Mathematical Statistics, Computational Statistics, Introduction to Machine Learning, etc.
- Oct.2015 – Jun.2016 **MMath in Mathematics**, *Trinity College, University of Cambridge*, Cambridge, UK
Commutative Algebra, Functional Analysis, Differential Geometry, Representation Theory, etc.
- Oct.2012 – Jun.2015 **BA in Mathematics**, *Trinity College, University of Cambridge*, Cambridge, UK
Galois Theory, Linear Analysis, Differential Geometry, Number Fields, Complex Analysis, etc.

Work Experience

- Oct.2024 – **Post-Doctoral Researcher**, *ETH Zürich*, Switzerland
Supervised by **Fanny Yang**
- Sep.2024 – Dec.2024 **Visiting Scholar**, *Simons Institute, UC Berkeley*, California, US
Programme: **Modern Paradigms in Generalization**
- Aug.2023 – Dec 2023 **Applied Scientist Intern**, *Amazon Web Services*, Santa Clara, California, US
Supervised by **Shiva Kasiviswanathan** and **Patrick Blöbaum**
- Sep.2016 – Jun.2017 **Junior Researcher in Statistics**, *Caleb ABC*, Seoul, Korea
Developed data envelopment analysis and logistic regression features on B-Box, a statistics software

Publications

- UAI 2024 Buchholz, S.*, Park, J.* and Schölkopf, B. Products, Abstractions and Inclusions of Causal Spaces.
- NeurIPS 2023 Oral (77/12343) Park, J., Buchholz, S., Schölkopf, B. and Muandet, K. A Measure-Theoretic Axiomatisation of Causality.
- Entropy 2023 Laumann, F., Von Kügelgen, J., Park, J., Schölkopf, B. and Barahona, M. Kernel-based Independence Tests for Causal Structure Learning on Functional Data.
- Preprint 2023 Dhanakshirur, M., Laumann, F., Park, J. and Barahona, M. A continuous Structural Intervention Distance to compare Causal Graphs.
- ALT 2023 Park, J. and Muandet, K. Towards Empirical Process Theory for Vector-Valued Functions: Metric Entropy of Smooth Function Classes.

- ICML 2021 Park, J., Shalit, U., Schölkopf, B. and Muandet, K. Conditional Distributional Treatment Effect with Kernel Conditional Mean Embeddings and U-Statistic Regression.
- arXiv 2020 Park, J. and Muandet, K. Regularised Least-Squares Regression with Infinite Dimensional Output Space.
- NeurIPS 2020 Park, J. and Muandet, K. A Measure-Theoretic Approach to Kernel Conditional Mean Embeddings.

Presentations (I = invited talk, C = contributed talk, P = poster)

- Feb 2023, I ETH Zürich, **A Measure-Theoretic Axiomatisation of Causality**
- Nov 2023, I Leipzig University, **A Measure-Theoretic Axiomatisation of Causality**
- Nov 2023, I Amazon, **A Measure-Theoretic Axiomatisation of Causality**
- Oct 2023, I Stanford University, USA, **A Measure-Theoretic Axiomatisation of Causality**
- Jul 2023, P European Meeting of Statisticians, Warsaw, Poland, **Towards a Measure-Theoretic Axiomatisation of Causality**
- May 2023, C Colloquium on “Fundamental Challenges in Causality”, Grenoble, France, **Towards a Measure-Theoretic Axiomatisation of Causality**
- Apr 2023, I Colloquium on “When Causal Inference meets Statistical Analysis”, Paris, France, **Towards a Measure-Theoretic Axiomatisation of Causality**
- Apr 2023, C Workshop on Causal Representation Learning, Tübingen, Germany, **Towards a Measure-Theoretic Axiomatisation of Causality**
- Mar 2023, I CISPA – Helmholtz Center for Information Security, Saarbrücken, Germany, **Towards a Measure-Theoretic Axiomatisation of Causality**
- Sep 2022, I ELISE Theory workshop on machine learning fundamentals, Antibes, France, **Kernel Conditional Mean Embeddings and Empirical Process Theory for Vector-Valued Functions**
- Jul 2022, C Saint Flour Probability Summer School, Saint Flour, France, **Empirical Process Theory for Vector-Valued Functions**
- Mar 2022, I Cornell University, USA, **Distributional Treatment Effects with Kernels**
- Jul 2020, I Petnica Summer Institute Machine Learning (Microsoft, Belgrade), **Kernel Methods in Machine Learning**
- Feb 2020, P Workshop on Functional Inference and Machine Intelligence, Eurecom, Antibes, France, **A Measure-Theoretic Approach to Kernel Conditional Mean Embeddings**

Reviews

- ACML 2020, 2021
- AoS 2021, 2023
- NeurIPS 2021, 2022, 2023, 2024
- ICLR 2022
- AISTATS 2022 (Top 10% of reviewers), 2023
- ICML 2022, 2023, 2024
- Analysis and Applications 2023
- Biometrika 2023

Technical Skills

Programming PYTHON, R, MATLAB
Software L^AT_EX

Languages & Additional Activities

Languages Korean (Mother Tongue), English (Bilingual), French (Intermediate), German (Elementary)
Football Member of Trinity College 1st Football Team (2012-2016) with captaincy (2013-2014).
Member of TV Derendingen 2021–2024
Other Sports Badminton, Running, Gym
Music Piano, grade 8, Associated Board of the Royal Schools of Music, UK

Volunteer Experience

Oct.2012 – **Volunteer teaching assistant**, *Perse School*, Cambridge, UK
Jun.2013 Helping underperforming students with maths
Oct.2014 – **Soup run**, Cambridge, UK
Jun.2016 Handing out food to the local homeless population.
Dec.2015 **Warehouse volunteer**, *Care4Calais*, Calais, France
Sorting and distributing donated goods to refugees
May.2024 – **WASH centre volunteer**, *Collective Aid*, Calais, France
Jun.2024 Doing laundry for refugees