

# QUAN ZHOU

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Technion, Israel

## SUMMARY

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I am interested in optimization, stochastic process and applications in machine learning algorithms. I received my PhD degree in August 2024.

## EMPLOYMENT

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<b>Postdoc at Technion, Department of Electrical Engineering</b>	Israel
Supervisor: Prof. Shie Mannor	<i>Since Nov 2024</i>

## EDUCATION

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<b>Imperial College London, Dyson School of Design Engineering</b>	United Kingdom
PhD in Design Engineering	<i>Oct 2022 - Aug 2024</i>
Supervisor: Prof. Robert Shorten, Dr. Jakub Mareček	
<b>University College Dublin, School of Electrical &amp; Electronic Engineering</b>	Ireland
PhD in Electrical and Electronic Engineering (transferred to Imperial)	<i>Feb 2020 - Aug 2022</i>
Supervisor: Dr. Jakub Mareček, Prof. Robert Shorten	
<b>University of Edinburgh, School of Mathematics</b>	United Kingdom
MSc Operational Research with Risk	<i>Sep 2018 - Nov 2019</i>
Supervisor: Dr. Jakub Mareček, Prof. Jacek Gondzio	Grade: 75, Distinction
<b>Hunan University, College of Finance and Statistics</b>	China
BEC (Hons) Insurance and Actuarial Science	<i>Sep 2014 - Jun 2018</i>

## PREPRINTS

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Quan Zhou, Mark Kozdoba, and Shie Mannor. Representative action selection for large action-space meta-bandits. *arXiv preprint arXiv:2505.18269*, 2025 (Submitted to AAAI-2026)

Quan Zhou, Robert Shorten and Jakub Marecek. Group-blind optimal transport to group parity and its constrained variants. *arXiv preprint arXiv:2310.11407*, 2023 (Under second-round review at JMLR)

## PUBLICATION LIST

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Quan Zhou and Jakub Mareček. Learning of linear dynamical systems as a non-commutative polynomial optimization problem. *IEEE Transactions on Automatic Control*, 2023

Quan Zhou, Jakub Mareček, and Robert Shorten. Fairness in forecasting of observations of linear dynamical systems. *Journal of Artificial Intelligence Research*, 76:1247–1280, 2023

Quan Zhou, Jakub Mareček, and Robert N Shorten. Fairness in forecasting and learning linear dynamical systems. In *Proceedings of the AAAI Conference on Artificial Intelligence*, volume 35, pages 11134–11142, 2021

Quan Zhou, Jakub Mareček, and Robert Shorten. Subgroup fairness in two-sided markets. *Plos one*, 18(2):e0281443, 2023

Quan Zhou, Ramen Ghosh, Robert Shorten, and Jakub Mareček. Closed-loop view of the regulation of ai: Equal impact across repeated interactions. In *2024 IEEE 40th International Conference on Data Engineering Workshops (ICDEW)*, pages 176–181. IEEE, 2024

Aida Manzano Kharman, Christian Jursitzky, Quan Zhou, Pietro Ferraro, Jakub Marecek, Pierre Pinson, and Robert Shorten. An adversarially robust data-market for spatial, crowd-sourced data. *Distrib. Ledger Technol.*, November 2024. Just Accepted

## RESEARCH EXPERIENCE

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**Machine Learning for Microsoft Azure** *Sep 2021-Jan 2022*

With a team of researchers at DKI (Data, Knowledge, Intelligence) Group of Microsoft Research Asia, I explore the applications of machine learning in certain problems at Microsoft Azure.

**Proper Learning of Linear Dynamic Systems** *May-Aug 2019*

Postgraduate research project under the supervision of Dr. Jakub Mareček (IBM Research) and Prof. Jacek Gondzio (University of Edinburgh).

**Insurance Company Economic Capital Measurement based on Copula** *Dec 2017 - May 2018*

Undergraduate research project under the supervision of Prof. Dihong Chen (Hunan University).

## TALKS AT CONFERENCES & WORKSHOPS

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**2025** Mathematical Aspects of Data Science (one poster).

**2024** ICDE Workshop on Fairness in AI.

**2023** Machine Learning NeEDS Mathematical Optimization.

**2021** ICLR Workshop on Responsible AI (two posters).

**2021** DET Seminar at Dyson School of Design Engineering, Imperial College London.

**2021** Thirty-Fifth AAAI Conference on Artificial Intelligence.

## AWARD

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**2024** Funding for the conference “Modern Perspectives in Applied Mathematics: Theory and Numerics of PDEs” at ETH Zurich

## SKILLS

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**Programming Languages**  
**Software Packages**

PyTorch, Python, Julia, MATLAB  
Mosek, CPLEX, GAMS, Xpress

## TEACHING EXPERIENCE

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One lecture on fairness for *Machine Learning (2023)*.

TA for *Machine Learning (2023)*, *Signal Processing (2021)*, and *Optimization (2022)*.

## VOLUNTEERING

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### Teacher, AIESEC

- (Kuala Lumpur, Malaysia, Mar 2018) Worked in a Christian charity house for one month and cooperated with a Vietnamese volunteer to teach English and mathematics to around 30 students. On holidays, we organized extracurricular activities.
- (Colombo, Sri Lanka, Jul 2016) Worked in a 6-person team to give English and Chinese courses in a Buddhist primary school and a high school, for one month.

## REFERENCES

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### Prof. Shie Mannor

Department of Electrical Engineering  
Technion Institute of Technology of Israel  
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### Prof. Robert Shorten

Dyson School of Design Engineering  
Imperial College London  
r.shorten@imperial.ac.uk

### Dr. Jakub Mareček

Department of Computer Science  
Czech Technical University in Prague  
jakub@marecek.cz