

**Anant Mathur**  
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## **A. Education**

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**UNSW Sydney**, Sydney, Australia 09/20 - present  
*PhD* in Statistics  
Focus Area: Computational Statistics and Operations Research  
Dissertation title: Efficient Algorithms for Sparse Statistical Learning  
Supervisors: Dr Zdravko Botev, Dr Sarat Moka

**UNSW Sydney**, Sydney, Australia  
*Bachelor of Science (Honours)*, Statistics, 2019 01/15 - 12/19

## **B. Research areas**

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### ▷ **Computational & high-dimensional statistics**

Sparse statistical learning

*Methodological areas*: Model compression and feature selection, Optimization for machine learning, Numerical analysis, Simulation

*Specific topics*: Penalized regression, Linear mixed-models, Neural network pruning, Matrix computations

*Applications* in genomics, quantitative risk management, and deep learning

*Programming languages*: Julia, Python, MATLAB, R

## **C. Awards and Honours**

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**PhD thesis ranked in the top 10% of dissertations by 2/2 external examiners**

**Outstanding Statistics Talk, UNSW School of Mathematics and Statistics, Postgraduate Conference (2023)**

**UNSW Nominee for [JB Douglas Award](#) (2023)**

## **D. Academic Service**

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### ▷ **Service as reviewer for journals**

Pattern recognition

### ▷ **Service as organizer/chair of technical sessions in conferences**

INFORMS International Meeting, Singapore, forthcoming

## **E. Research publications & preprints**

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### ▷ **Manuscripts under peer-review**

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[A. Mathur](#), S. Moka, Z. Botev “A Fast MM Algorithm for Group Lasso” [[PDF](#)].

### ▷ **In peer-reviewed journals**

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[A. Mathur](#), S. Moka, Z. Botev, (2022). “Coordinate Descent for Variance-Component Models” *Algorithms*, 2022, 15 (10): 354.

### ▷ **Papers in peer-reviewed conference proceedings**

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[A. Mathur](#), S. Moka, B. Lique, Z. Botev, “Group COMBSS: Group Selection via Continuous Optimisation”, 2024 Winter Simulation Conference (WSC), In Proceedings of the 2024 **Winter Simulation Conference**, IEEE press, 2024, pp. 3217-3228

[A. Mathur](#), S. Moka, B. Lique, Z. Botev, “Feature Selection in Generalised Linear Models via the Lasso: To Scale or Not to Scale?”, **15th OPT-ML Workshop, NeurIPS 2023**.

[A. Mathur](#), S. Moka, B. Lique, Z. Botev, “Column Subset Selection and Nyström Approximation via Continuous Optimisation”, 2023 Winter Simulation Conference (WSC), In Proceedings of the 2023 **Winter Simulation Conference**, IEEE press, 2023. pp. 3601-3612.

[A. Mathur](#), S. Moka, B. Lique, Z. Botev, “Variance Reduction for Matrix Computations with Applications to Gaussian Processes”, **VALUETOOLS 2021**, LNCS 13116, pp. 275-290.

## **F. Research talks**

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### ▷ **Invited talks in Specialized Workshops/Conferences**

SSA NSW Branch 2024 Annual Event

### ▷ **Seminar Presentations**

Macquarie University, School of Mathematical and Physical Sciences, 09/24

UNSW Sydney, School of Mathematical and Statistics, Statistics Seminar, 09/24

### ▷ **Contributed talks in major conferences**

INFORMS International Meeting, Singapore, *forthcoming*

2023 Winter Simulation Conference, San Antonio, 12/23

25th International Congress on Modelling and Simulation (MODSIM 2023), Darwin, 07/23

Australian Mathematical Society Annual Meeting 2022, Sydney, 12/22

VALUETOOLS 2021 (Online), 10/2

## **G. Teaching**

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### ▷ **UNSW Sydney**

Machine Learning and Data Mining Lecture Assistant, Instructor	2019 - 2024
Numerical Methods and Statistics Instructor	2025

## **H. Student mentoring**

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### ▷ **Honours students for whom significant thesis research guidance provided**

Ruiqi Dao, 01/25 – present (Primary advisor: Sarat Moka)  
Seungjoo Lee, 01/24 – 10/24 (Primary advisor: Sarat Moka)

## **I. Industry work experience**

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Migrant Justice Institute, Sydney, Data Analyst, 03/25 - present  
National Drug and Alcohol Research Centre, Sydney, Research Assistant, 07/18 -07/20  
SimpleKYC, Sydney, Intern, Data Science 12/17-03/18  
HeyYou, Sydney, Intern, Data Science 12/17-03