

NEMANJA DAMNJANOVIC

Cambridge UK/Belgrade Serbia

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Education

University of Cambridge, Churchill College

Mathematics(MMath)

October 2021- expected June 2025

- **Results:** Third year: 2.1, Masters: Ongoing
- **Relevant courses:** Numerical analysis, Statistics and Probability courses, Markov chains, Mathematics of Machine learning, analysis, currently following mostly Physics courses, Differential geometry and Analysis of PDEs.

First Belgrade Grammar school

Natural sciences and mathematics program

September 2017- June 2021

- **Results:** perfect grades in final year, overall 5.0
- **Relevant modules:** Mathematics, Physics, Computer science and IT

Experience

Hong Kong Applied Science and Technology Institute

Intern- Machine Learning

July 2024 -August 2024

- Worked in a team working on Vertical Federated learning models, under mentor focusing on project for traffic prediction near Hong Kong, Shenzhen border.
- Implemented Spatio-Temporal graph convolution and Temporal Graph Attention networks and compared their performance between public local and widely researched datasets, work was done with Pytorch.
- Cleaning and manipulating data into usable forms for the team to work with. Reporting on different public datasets.

Mathematical Institute of the Serbian Academy of Sciences and Arts

Research intern-Yang-Baxter matrix equation

July 2022 -September 2022

- Lectured on linear analysis and standard methods particularly related to matrices.
- Assigned to read research papers in the area and worked on special cases of the equation, doing my own research.
- Introduced to writing papers and general conventions in academia.

Mathematics and Physics Tutor

Tutor

October 2021-present

- Preparing students for university entrance exams in physics and mathematics.
- Focused on Cambridge STEP exam and Serbian University entrance exams.

Personal Projects

Machine learning, Modeling - Python:

Summer 2023-present

- **Option Pricing in Mathematical Finance**, Dynamic programming, Python
- Neural networks: Building basic neural networks from scratch to train on MNIST database. Using Pytorch for animal classification using CNNs.
- Using Linear and Random Forest Regression and Python 'sklearn' and 'pandas' packages to estimate home prices, trained on 'Ames Iowa home' database

Projects - Matlab

- Statistics project on generating samples from Probability distributions
- Numerical solutions to differential equations
- Analytic and Numerical solutions to the Diffusion Equation
- Matrices over Finite Fields

Additional Skills

Python: Pytorch, Pandas Numpy, Matplotlib and Sckit-learn packages.

Matlab

Languages: English (fluent 116/120 on TOEFL), Serbian (native)

Other:: LaTeX, Powerpoint and Excel

EXTRACURRICULARS

Churchill College Basketball - Captain. In charge of court booking, team finances and recruiting players.

Cambridge Serbian Society:: Active member, helped organise multiple events.