

Saptarshi Chakrabarti

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Education

(Advanced) Master of Science - Artificial Intelligence - <i>Engineering and Computer Science</i> KU Leuven	2023–Present Leuven, Belgium NUMA, KU Leuven
Thesis (<i>tentative title</i>): Recurrent neural networks and tensor ring decomposition.	
Electives : Genetic Algorithms, Computer Vision, Reinforcement Learning, Robotics, Brain Computer Interface	
Master of Science - International Business Economics and Management KU Leuven	2023 Brussels, Belgium FEB, KU Leuven
Thesis - Analysis of CO_2 emission drivers of India (Supervisor: Prof. Johan Eyckmans)	
Bachelor of Science - Physics University of Calcutta	2019 Kolkata, India

Skills

Programming Languages: Python, C++, R, MATLAB, SQL, \LaTeX , HTML, JavaScript, CSS

Packages & Libraries: OpenCV, PyTorch, TensorFlow, Keras, Flask, BeautifulSoup, Selenium, Qiskit, D-Wave Ocean

Tools, Platforms & OS: Git, Docker, AWS, GCP, Microsoft Azure, ROS, Unix-based systems, Shell scripting, PipeDrive, FactSet, Orbis, Pitchbook, EY Finance Navigator

Softwares: SPSS, Adobe After Effects, Audition, Lightroom, Photoshop, Premiere Pro, PowerBI, Tableau

Languages: English, Bengali, Hindi, German - CEFR level B1, Dutch - CEFR level A2, French - Elementary Proficiency

Professional Experience

Developer - Part time MindSpeakerBCI	March 2024 - June 2024 Remote
– [NDA] MindSpeakerBCI focuses on non-invasive Brain Computer Interfaces for decoding imagined speech.	
Consultant Solvay Consulting Club	March 2022 – May 2022 Brussels, Belgium
– Advised on structuring innovative fund models for 50° North (formerly EEBIC) Ventures	
Consultant & Team-lead 180 Degrees Consulting	February 2022 – April 2022 Brussels, Belgium
– Supported Wequity in building their new sustainability platform for corporates & investors through building a tool for calculating scope 1, 2 & 3 Carbon dioxide emissions for companies according to the GHG protocol	
Engagement Manager Impact Consulting - Kolkata Hub	August 2021 – January 2022 Remote
– Managed a team of student consultants for a project to formulate an online marketing strategy and chart pathways for funding goals for Prayatna Foundation - an NGO operating in West Bengal, India	
Finance Intern ReShore	September 2021 – December 2021 Wageningen, The Netherlands
– Developed financial capital plans in line with the business and to support their growth needs	
– Prepared financial statements, business activity reports, forecasts, and annual budgets	
– Conducted financial modelling and analysis for product development, and new pricing models to assess ROI, risks & go-to-market assumptions	
Private Equity Intern Benelux Succession Capital	July 2021 – September 2021 Herent, Belgium
– Analysed industries and evaluated companies to look for investment opportunities based on a proprietary search criteria	
– Worked on due diligence for specific companies throughout the search process	
– Managed overall project for specific deals using PipeDrive (CRM tool)	

Research Experience

Research Assistant

Faculty of Economics and Business, Rijksuniversiteit Groningen

February 2023 – April 2023

Groningen, The Netherlands

- Investigating correlation and causation relationships in large datasets - between PAC contributions of corporations & their supply-chain preferences based on political affiliations during US election cycles.

Research Assistant

Faculty of Economics & Business, KU Leuven

November 2022 – January 2023

Brussels, Belgium

- Built data pipelines for a stylised Integrated Assessment Model for simulating cooperative game-theoretical approaches to global climate negotiations.

Research Intern

Faculty of Economics and Business, Rijksuniversiteit Groningen

July 2022 – September 2022

Groningen, The Netherlands

- Analysed CSR trends in India through data collected via web scraping and automation tools : *BeautifulSoup* & *Selenium*.
- Optimised data pre-processing codes to reduce computation time and resource requirements.
- Implemented a gender classification model using named entity recognition and natural language processing on annual general meeting minutes to examine the influence of gender on executive board composition and firm-level outcomes.
- Extracting and building a large firm-level supply-chain relationship dataset through SQL queries.

Research Intern

A. K. Choudhury School of Information Technology, University of Calcutta

July 2019 – November 2020

Kolkata, India

- Worked on developing a genetic algorithm based quantum-inspired algorithm for feature selection using DWave Ocean
- Benchmarked various existing algorithms for adiabatic quantum computing using QUBO-based approaches

Research Intern

Department of Physical Sciences, Indian Institute of Science Education and Research

September 2019 – January 2020

Kolkata, India

- Worked on simulators and experimental realisations of quantum computing algorithms using Qiskit & IBM-Q

Intern

Department of Electronics & Telecommunication Engineering, Jadavpur University

November 2018 – September 2019

Kolkata, India

- Built an automated surveillance system using Raspberry Pi 3
- Worked on transmitting data from various sensors using Arduino, NodeMCU & MQTT. Analysed the data using ThingSpeak and MATLAB

Teaching Experience

Teaching Assistant

Department of Electronics & Telecommunication Engineering, Jadavpur University

November 2018 - September 2019

Kolkata, India

- Developed & taught a module for the B.Tech. (ETCE) programme network laboratory course.

Volunteering Experience

Head of Editorial Team 2020 - 2021, Editor 2019 - 2020

Rotaract Club of Barrackpore

September 2018 – December 2021

Kolkata, India

- Led the editorial team and coordinated with members of the club for official communication
- Raised funds for a Personal Protective Equipment (PPE) donation drive project for the healthcare workers of Kolkata - "Life Jacket" and donated 250+ PPEs at various hospitals in the city during the COVID-19 pandemic
- Organized a mental-health workshop aimed at developing the skills needed to provide a safe space for the community

Projects

Robotics, KU Leuven

March 2024 - June 2024

- Pose estimation and path planning for Autonomous Surface Vehicles (ASVs).

Quantum Computation, Qiskit Global Summer School - IBM Quantum

August 2020

- Simulated a VQE algorithm for calculating the ground state energy of a LiH molecule, accounting for device-specific noise as part of the Qiskit Global Summer School Final Project challenge.

QUBO2Ising, Python Package Development

June 2020

- Developed a Python package on PyPi to obtain h & J values for Ising models from QUBO matrices.

Quadrotors, SkyFi Labs, India

August 2018

- Constructed and calibrated a Quadrotor as part of a five-member team.

Additional courses taken

Manifestations of Angular Momentum in light and Quantum Matter	September 2019
Indian Institute of Technology, Kharagpur	Kharagpur, India
– An advanced course on angular momentum in light and current research areas on the same organised by Prof. Sanjoy Majumder.	
Machine Learning	May 2019
Indian Institute of Technology, Bhubaneswar	Bhubaneswar, India
– Course on Physics and Biology inspired optimisation, machine learning, data mining techniques and their applications in big-data, medical sciences, science and engineering disciplines by Prof. Zohar Nussinov and Prof. Kisor Sahu.	
Nano-Transistors	January 2019
Indian Institute of Technology, Kanpur	Kanpur, India
– Learnt about modelling and simulation of Nano-transistors from Prof. Yogesh Singh Chauhan. Simulated basic circuits using Xyce and hands-on training with IC-CAP.	
Metamaterials	November 2018
Indian Institute of Technology, Kharagpur	Kharagpur, India
– A course by Prof. Bratin Ghosh on electromagnetic theory, antenna design and engineered materials. Simulated an enhanced-gain antenna and studied its properties using HFSS.	
Internet of Things	October 2018
Indian Institute of Technology, Kharagpur	Kharagpur, India
– Was introduced to the theory and applications of IoT by Prof. Sudip Misra. Used Arduino Uno boards and NodeMCU modules to transmit sensor data using MQTT and ThingSpeak.	
Advanced DSP Design Techniques	September 2018
Indian Institute of Technology, Kharagpur	Kharagpur, India
– A course by Prof. Mrityunjoy Chakraborty and Prof. A. S. Dhar on optimizing DSP design techniques. Implemented and simulated a 32-bit Ripple Carry Adder circuit on FPGA using Xilinx (Verilog).	

Extra-curricular Activities & Achievements

- **Best Pitch Award** - for a social-media based urban planning recommender at the Data4Good Challenge 2022 organised by Emergent Leuven 2022
- Member of Team Events & Team Digital at **Emergent Leuven**; helped design the challenge for Data4Good Challenge 2021 2021 - 2022
- **Capitant Brussels** : Participated in M&A case studies at several investment firms during the Amsterdam Finance Trip 2021
- **Student ambassador** for the MIBEM programme at **KU Leuven** 2021-2022
- Best Colour Work award for my short-film “*Life in Boxes*” at “Roll Camera” by Rotaract Club of Barasat Central 2020
- **Winner** - hackathon organised by Algo8 at Indian Institute of Technology Kanpur 2019
- 2nd Runners Up in Videography at Radiate (Rotaract Conference) 2019
- 2nd Runners Up in Quiz at Radiate (Rotaract Conference) 2019
- 2nd Runners Up in Spell-Bee at Radiate (Rotaract Conference) 2019
- Represented school for a poetry writing competition organized by The Heritage School 2013
- Represented school as a part of the drama team in the national finals of British Council Drama Competition, Delhi 2011
- 1st position in Smarak-Kosh (Drama competition organized by South Point High School) 2010
- 1st position in all India art competition organized by Creative India 2010