Rijswijk, The Netherlands
(+31) 613485171
sayakmukherjee2010@gmail.com
sayakmukherjee.github.io
SayakMukherjee
smukherjee96

Sayak Mukherjee

Experience

03/2025–Present **Doctoral Researcher**, *TU Delft*, Delft, NL
- Focus: Data-Efficient Machine Learning for Context-Sensitive Affective Computing.

09/2023–02/2025 **Researcher**, *TU Delft*, Delft, NL
- Worked on generative models with a focus on diffusion models.
- Focused on developing methods for training-free alignment of diffusion models.
- Explored training-free alignment of diffusion models.
- Collaborated with researchers from MIT, Shell AI Research and Google.

09/2018–08/2021 **Application Developer**, *Oracle*, Bangalore, IN
- Customized Oracle's core banking platform FLEXCUBE for Banco de Occidente, Columbia and Rabobank, Brazil.
- Developed 40+ functionalities tailored for the Latin American banking sector.
- Experienced using Java, Spring, Hibernate, SOAP API, and JavaScript.
- Deployed solutions on Oracle Database and Oracle Weblogic Server.

07/2017–08/2017 **Data Science Intern**, *Indian Institute of Management, Lucknow*, Remote
- Covered basics of R programming, data analytics, statistics, and econometrics.
- Used acquired knowledge to solve business cases by Harvard Business School.
- Completed a capstone project on hotel room pricing in Indian market.

Education

09/2021–08/2023 **MSc Computer Science (Cum Laude)**, *TU Delft*, Delft, NL
Master Thesis: Model Agnostic Peer-to-peer Learning
Key Areas: Deep Learning, Computer Vision, Distributed Machine Learning

08/2014–07/2018 **BTech Information Technology**, *WBUT*, Kolkata, IN
Bachelor Thesis: Human Action Recognition Using Convolution Neural Networks
Key Areas: Data Structures and Algorithms, Soft Computing, Theory of Automata

Academic Activities

Teaching Asst. Human-Computer Interaction (CSE3500), Web Science & Engineering (IN4252), Fundamentals of AI Program (IFEEMCS520100), Deep Learning (CS4240), AI Skills for Engineers (EdX), Generative Modelling (DSAIT4030)

Skills

Python (PyTorch, Pandas, NumPy, SkLearn, SciPy), R, Java, C, LaTeX, SQL, Git, Linux, ReactJS.

Other Courses

07/2024 **Oxford Machine Learning Summer School**, *AI for Global Goals*
- Completed a 22-hour program on Representation Learning and Generative AI.
- Studied neural and behavioural comparisons between humans and machines.
- Learned methods for uncertainty quantification in AI systems.
- Investigated representation learning and generative AI for computer vision tasks.

06/2024 **Generative Modelling Summer School**, *TU Eindhoven, TU Denmark, Inria*
- Completed 30.5 hours of training, including lectures, exercises, and a poster session.
- Gained specialized knowledge in generative modelling.
- Engaged with interdisciplinary applications such as bioinformatics, computational physics, and social science.
- Full program is available at gemss.ai/2024.

08/2020 **Machine Learning**, *Stanford Online via Coursera*
- Learnt about Linear Regression, Logistic Regression and Regularization.
- Covered Machine Learning System Design, Supervised and Unsupervised Learning.

07/2020 **Microsoft Azure Machine Learning Foundation**, *Microsoft via Udacity*
- Implemented Model Training on Azure Machine Learning Studio.
- Covered Feature Engineering, Feature Selection and Data drift.
- Learnt about Supervised, Unsupervised and Reinforcement Learning.
- Studied concepts such as Model Transparency, Explainability, and Fairness.

05/2020 **Data Engineering with Google Cloud Specialization**, *Google via Coursera*
- Covered the fundamentals of Big Data and AI on Google Cloud Platform.
- Learnt about modernization of Data Lakes and Data Warehouse.
- Used Cloud Dataproc, Cloud Dataflow, Cloud Data Fusion and Cloud Composer to build and manage data pipelines.
- Built streaming analytics systems using Cloud Pub Sub, Cloud Dataflow, Big Query and Big Table.
- Learnt about smart analytics, Machine Learning and AI using Cloud AutoML, Big Query ML and Kubeflow.

Languages

English Professional Working Proficiency *CEFR Level: C1, IELTS dt. 06/2019*

Hindi Professional Working Proficiency

Bengali Native Proficiency

References

Dr. Jan van Gemert
Head of the Computer Vision lab
Faculty of Electrical Engineering, Mathematics and Computer Science
Delft University of Technology
Email: J.C.vanGemert@tudelft.nl

Prof. dr. Marcel Reinders
Head of the Pattern Recognition and Bioinformatics lab
Faculty of Electrical Engineering, Mathematics and Computer Science
Delft University of Technology
Email: M.J.T.Reinders@tudelft.nl