

## Education

- 2020–2024 **Ph.D. in Computer Science**, *Biomechanics Capture: Deep learning-based real-time human biomechanics capture*, Marie Curie fellowship at University Cote d'azur, Nice, France.
- This project aims to address the problem of acquiring humans' pose, shape, appearance, motion, and dynamics in 3D using a multi-camera environment in real-time.
  - Industry partner: Youdome, Monaco. Academic partners: Brown University, United States
- 2017–2020 **MSc in Computer Science and Engineering**, *Specialized in Artificial Intelligence and Robotics*, Politecnico di Milano, Milan, Italy.
- In-depth courses in AI, Machine Learning, Statistical Analysis, and Time-Series Analysis.
  - Gained a solid foundation in mathematics, probability, and statistics.
- 2013–2017 **B.Tech in Computer Science and Engineering**, *West Bengal University of Technology*, Kolkata, India, Solid foundation in software engineering and image processing.

## Experience

- 2022–2024 **Visiting Researcher**, Brown University, Providence, USA.
- Collaborated with a diverse, fast-paced research team in a cross-functional environment.
  - Developed deep learning algorithms using Tensor Field Networks and NeRF for 3D human model canonicalization.
- 2021–2021 **Teaching Assistant**, Université Côte d'Azur, Nice, France.  
Conducted 3D machine vision course, effectively communicating complex concepts to master's students.
- 2020–2020 **Machine learning Intern**, Next Industries S.R.L., Milan, Italy.
- Developed ML applications for wearable devices and optimized motion gesture recognition algorithms.
  - Collaborated with cross-functional teams to optimize hardware and software.
- 2019–2020 **Data Scientist Intern**, UniCredit Services S.c.p.a., Milan, Italy.
- Automated manual financial processes using data-driven approaches.
  - Implemented an OCR Web service with pre- and post-processing modules (NLP) to improve OCR quality.
  - Worked on statistical analysis, object detection, document classification, and entity recognition/extraction.

## Skills

- Programming Python, C, C++, C#, Java
- DevOps Docker, Git, GCP.
- Database Proficient in MongoDB and SQL.
- ML, CV & DS tools Pytorch, Pytorch Lightning, Tensorflow, Keras, MLflow, Scikit-learn, OpenCV, Pandas, NLTK, Spacy, Matplotlib, Jupyter Notebook.
- Quantitative Regression analysis, Hypothesis testing, Time-series analysis, Machine learning techniques including pattern recognition, and NLP.
- Data Analysis Statistical modeling, Data mining, probability, and statistics.
- Languages English (Proficient); Hindi & Bengali (Native); French (Beginner); Italian (Beginner)

## Awards

- 2022 Best poster award *EuroGraphics 2022, Reims*
- 2022 Winner of E-Health Creathon *Innovation Center for Entrepreneurship of University Cote d'Azur*
- 2019 Developed official IOI mobile application *The International Olympiad in Informatics*

## Publications

- 2023 **DiVA-360: The Dynamic Visuo-Audio Dataset for Immersive Neural Fields**, CY Lu, P Zhou, A Xing, C Pokhariya, A Dey, et al., Preprint, arXiv:2307.16897.
- 2023 **PNeRF: Probabilistic Neural Scene Representations for Uncertain 3D Visual Mapping**, Y Ahmine, A Dey, AI Comport, Preprint, arXiv:2209.11677.
- 2022 **Mip-NeRF RGB-D: Depth-Assisted Fast Neural Radiance Fields**, Dey, A. and Ahmine, Y. and Comport, A.I., Journal of WSCG, Volume 30 pages 34-43, DOI:10.24132/JWSCG.2022.5.
- 2022 **RGB-D Neural Radiance Fields: Local Sampling for Faster Training**, Dey, Arnab and Comport, Andrew I., Eurographics 2022 - Posters, DOI: 10.2312/egp.20221001.