

Garima

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EDUCATION

- **EMJMD PSRS- Intelligent Vision & Biometrics**

Erasmus Mundus Joint Master Degree: Photonics for Security Reliability and Safety (PSRS)

Université Paris-Est Créteil

France

Semester 3: Master of Science diploma in Biometrics and Intelligent Vision

September 2024 - February 2025

Grade: 15.36/20

Relevant Courses: Computer Vision, Biometrics, Deep Learning, Artificial Intelligence and Innovation, Emerging Technology (AR and VR)

University of Eastern Finland

Finland

Semester 2: Master of Science in Photonics

January 2024 - May 2024

Grade: 4.87/5

Relevant Courses: Machine Vision, Basics of Signal and Image Processing, Numerical methods with Python, Color Science

University Jean Monnet

France

Semester 1: Master of Science diploma in Optics, Image, Vision, Multimedia

September 2023 - January 2024

Grade: A

Relevant Courses: Digital Image Processing and Analysis, Algorithms & Programming, Scientific computing with MATLAB, Physical optics - Digital processing

- **St. Stephen's College, University of Delhi**

India

BSc - Physical Sciences

November 2020 - July 2023

CGPA: 9.379 / 10.00

Subjects: Computer Science, Mathematics, Physics, Chemistry

RESEARCH EXPERIENCE

- **Institut des systemes intelligents et de robotique (ISIR), Sorbonne University**

France

Master Thesis: Point Cloud Registration with Machine Learning

March 2025 - ongoing

Supervisors: Catherine Achard, Brahim Tamadazte and Karim Slimani

- Training & testing deep learning models for point cloud registration to compare their performance against the state of the art models.

- **Swiss Plasma Center (SPC), École Polytechnique Fédérale de Lausanne (EPFL)**

Switzerland

PSRS M1 Internship: Pre-processing of plasma videos for detection & tracking of REs

June 2024 - August 2024

Supervisors: Alessandro Pau and Cristian Sommariva

- Implemented and compared various image enhancement methods like denoising, super resolution, for experimental plasma videos from JET tokamak.

- Generated additional data for training YOLO & performed code review for the overall pipeline of detection and tracking of runaway electrons (REs).

SKILLS SUMMARY

- **General Skills:** Data Visualization, Data Preparation, Machine Learning, Deep Learning
- **Languages (CS):** Python, Matlab, C, HTML, R, SQL, Fortran
- **Py Libraries:** PyTorch, Tensorflow, OpenCV, open3d, Numpy, Pandas, Scikit-Learn, Matplotlib
- **Databases:** SQLite, MongoDB
- **Software:** Wolfram Mathematica, Maxima, Gnuplot, LaTeX, Office suite, Google Workspace
- **Language Skills:** Hindi (Mother Tongue), English (Academic language)
- **OS:** Windows, Linux

RESEARCH INTERESTS

Computer Vision, Artificial Intelligence, Deep learning

COURSES AND CERTIFICATIONS

- Attended the EPFL Lauz-Hack Deep Learning BootCamp (2024)
- Certified with Credly badge for finishing **Applied Data Science Lab** from WorldQuant University. Finished 8 end-to-end applied Data Science Projects. (2023)
- Completed **CS50x: Introduction to Computer Science by Harvard University**. Finished 9 labs and problem sets along with a Final Project (2022)
- Completed **Introduction to Web Development** with Code First Girls (UK) (2022)
- Shortlisted for Winter school for young women in Mathematics organised by **IWM-IIT Kanpur** (Indian Women and Mathematics - Indian Institute of Technology Kanpur) (2021)
- Attained a **course on Web-GIS** offered by **ISRO-IIRS** (Indian Institute of Remote Sensing - Indian Space Research Organisation) (2021)

VOLUNTEER WORK

- Served as a volunteer with the Pramanit Foundation, India from 2019 to 2023
- **Event Organisation and Management** - Organised Republic Day Celebration, Independence Day Celebrations, Yoga Day, Polio Drive, Tree Plantation Drive, Cleanliness Drive and several other events ever since joining National Cadet Corps from 2020 to 2023





HONOURS AND AWARDS

- Selected for **Erasmus Mundus scholarship** for PSRS (2023-2025)
- Felicitated with **Asha Chatterjee Prize** for academic work, strength of character and leadership qualities at St. Stephen's College (2023)
- Felicitated with **Delhi Science Teacher's Association Scholarship** for securing 2nd rank in Science Open Test (2018-2019)
- Certified with Special Achievement Certificate for securing 3rd Rank in All India Hindi Olympiad (2017)
- Awarded certificates by AVAS, a Vedic Maths Foundation for completing **4 levels of Vedic Maths (2014-2016)**

EXTRA CURRICULAR ACTIVITIES

- Editor of the EMJMD PSRS newsletter for its 1st and 2nd edition (2024- 2025)
- Sergeant at National Cadet Corps (NCC), St. Stephen's College (2020-2023)
- Certified by **University of Cambridge, Massachusetts** for solving logical puzzles in CS50x Puzzle Day (2022)
- Represented India during Youth Exchange Program at Independence Day Camp (2022)

REFERENCES

- **Catherine Achard**, Professor, Institut des systemes intelligents et de robotique (Sorbonne University, CNRS)
Research area: Artificial Intelligence
 [Google Scholar](#)
 catherine.achard@sorbonne-universite.fr
- **Amine Nait-Ali**, Professor & PSRS coordinator, Université Paris-Est Créteil
Research area: Biometrics
 [Google Scholar](#)
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