

Katérina Vinciguerra

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EDUCATION

UNIVERSITY OF PARMA | PhD | 2024 - 2026 | Parma, IT

Research topic: Improving self-driving cars perception and understanding through multimodal models supervised by

Professor Letizia Marchegiani

Scholarship: Research Project of National Interest (PRIN) - Listen, See and Act (LiSA)

Eg of classes: Visual Perception for self-driving cars, Advanced Techniques For Deep Generative Models, etc.

GRENOBLE INP (ENSIMAG) & GEM | MS in Big Data | 2020 - 2021 | Grenoble, FR

Master thesis: Self-Driving cars and Audio processing

Scholarship: Granted based on academic performances from Accenture

Eg of classes: Data Science, Distributed Architecture Systems in Big Data, etc.

GRENOBLE ECOLE DE MANAGEMENT (GEM) | PGE DESMA (MSc in Management) | 2018 - 2021 | Grenoble, FR

Master thesis: Smart city and data protection

Scholarship: 2 granted based on academic performances (Schneider Electric, Auvergne-Rhône-Alpes region)

Academic exchange at Brock University, St. Catharines, CA - 2019 - 2020 - eg of classes: Applied programming, Econometry, Mathematics, etc.

CLASSE PRÉPARATOIRE AUX GRANDES ÉCOLES | 2016 - 2018 | Fontainebleau, FR

LECTURES & WORKSHOPS

- **Lecturer:** *Introduction to World Models*, University of Parma, November 2026 (3D Perception & Learning-Based Data Fusion module).
- **Co-chair and lecturer,** *The More the Better: Multimodal Perception for Safer Autonomous Navigation*, Workshop at **IEEE CASE 2025**, L. Marchegiani, G. Costante, A. Dionigi, K. Vinciguerra, D. De Martini, D. Ognibene, D. G. Sorrenti, Y. Wu, M. Gadd.
- **Lecturer,** *Machine Learning and Signal processing*, University of Parma, Nov. 2024 (Emilia-Romagna RER SII40 program).

WORKING EXPERIENCE

NXP | Research Collaboration | June 2026 - September 2026 | Leuven, BE

- Run a new data collection campaign of long-tail scenarios with a complete sensor suites (Cameras, GPS, Lidars, Microphones, Radars).
- Build an audio-visual large language action model on longtail scenarios (PyTorch) for publication (Work in Progress).
- Investigate and assess the value of each sensor and sensors combination (notably Radar and audio (PyTorch) for publication (Work in Progress).

FRAUNHOFER IDMT-HSA | Research Collaboration | October 2025 - March 2026 | Oldenburg, DE

- Preparing and calibrating sensors and settings (ROS2) for data collection on urban roads under specific conditions and scenarios. Data cleaning, and processing (Python) for publication.
- Development of an algorithm (PyTorch) to learn real-time detection, localization, speed estimation and counting of vehicles about to cross the field-of-view.

KPMG | Data Scientist | September 2021 - December 2023 | Paris, FR

- Data migration, integration, and modeling from one platform to another (ETL: SoQL, Pyspark) for alerts report in near real time containing targeted KPIs needed to analyze the situation.
- Development of a contract validation algorithm (Python) to improve the efficiency of the client company's processes.

SCHNEIDER ELECTRIC | Data Scientist Intern | February 2021 - August 2021 | Grenoble, FR

- Development of a production cost prediction algorithm that provides an estimate as early as the product design phase (Python, Scikit-learn).
- Implementation of the algorithm (Django, HTML, SQL) to enable daily use of the tool by designers and cost engineers across different locations (China, France, India, USA).

SKILLS

PROGRAMMING

Python (PyTorch, TensorFlow, scikit-learn, PySpark), C/C++, Django, HTML, ROS2, SQL/NoSQL

LANGUAGES

French (Native), English (C1, Fluent), Italian & Spanish (B2, Proficient), German (A1, Elementary)