

# Théo Palagi

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## EDUCATION

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### Télécom Paris - Institut Polytechnique de Paris

Sept. 2024 – June 2026

Master of Science in Engineering

GPA: 3.95/4.0

- Best computer science engineering school in France
- Specialized in AI, Computer Vision and Applied Mathematics
- Coursework: Image/Speech/Signal Processing, 3D/Video Vision, Object Recognition, Generative Models, NLP, Deep Learning, ML Optimization, Statistics, Linear Models, Time Series

### Preparatory Classes for Grandes Écoles

Sept. 2022 – June 2024

Science Track PCSI/PC - Lycée du Parc, Lyon

GPA: 4.0/4.0

- Intensive program in Mathematics, Physics and CS preparing for entrance exams to top French engineering schools
- Achievement: ranked 512/3731 at national Mines-Ponts exam

### Lycée Joliot Curie, Aubagne

Sept. 2019 – June. 2022

Baccalauréat Mention Très Bien avec les Félicitations du Jury

- equivalent to 'A'-level, specialised in maths and physics.
- Coursework: Mathematics, Physics, Chemistry, Philosophy, Optional courses of mathematics.

## PROJECTS

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### White Blood Cell Classification | [🐙 Repository](#)

Feb. – Apr. 2026

- Kaggle challenge among 70+ Télécom Paris students: classified 13 types of white blood cells from microscopic images.
- Developed a classical ML pipeline (handcrafted features) and a deep learning approach (transfer learning with).

### PatchMatch Image Editing and Copy–Move Detection | [🐙 Repository](#)

Sept. – Dec. 2025

- Implemented the PatchMatch algorithm for fast approximate nearest neighbor search in image patches.
- Applied and adapted the method to automatically detect and repair copy–move forgeries in grayscale and color images.
- Produced a detailed report analyzing algorithm performance and visual reconstruction quality.

### Unsupervised Text Clustering (NLP) | [🐙 Repository](#)

Feb. – June. 2025

- Developed a complete unsupervised NLP pipeline using BERT embeddings and HDBSCAN clustering.
- Applied dimensionality reduction (UMAP) and keyword extraction with TF–IDF weighting.
- Conducted evaluations to measure cluster quality, interpretability, and computational efficiency.

## WORK EXPERIENCE

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### Humanitarian Internship — Shalom Center, Arusha (Tanzania)

Jul. – Aug. 2025

- Provided educational support and managed daily logistics for a center dedicated to children and young mothers.
- Designed a drip irrigation and rainwater harvesting system to optimize water resources.
- Collaborated daily with local staff and international volunteers in a multicultural environment.
- *Since Aug. 2025:* Actively partnering with the **AFTED** association to recruit and mentor future volunteers.

### Private Tutoring — Mathematics

2024 – Present

- Tutored a high school student (10th grade) in mathematics with personalized lessons to improve understanding and performance.

## SKILLS

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**Programming:** Python, SQL, C, TypeScript

**Tools and Frameworks:** Pytorch, Scikit-learn, Numpy, Pandas, Matplotlib, Bert, Git

**Languages:** French (Native), English (Full professional proficiency), Spanish (Conversational)

## HOBBIES

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**Football:** 12 years of experience developing teamwork and leadership skills.

**Tennis:** 1 year with Télécom Paris' Sports Office, improving focus and self-control.

**Music:** Guitar player with a strong interest in music composition and live performance.