Joseph ASSAKER

Computer Vision Engineer

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in LinkedIn   ▶ Youtube Channel   🌐 **Portfolio**

EDUCATION

2021 → July 2025 - Computer Vision PhD — *Rouen University, France*

PhD Title: Unsupervised Learning-based *Information Retrieval* Applied to *Spot Patterns* in Historical Document Images. ICPR 2024 Paper.

- A plethora of vision sub-domains are involved in this project such as **transfer learning**, **one-shot object detection**, **transformer-based architectures**, **unsupervised learning** and **synthetic data generation**.
- Built an extensive, flexible and parameterizable codebase in **Python/PyTorch** ranging from model architecture and training to synthetic data generation.
- Taught a total of **150+ hours** across 8 programming, machine learning and web development courses delivered for students of L1 all the way to M2.

2020 - Master in Computer Sciences — *Lebanese University, Lebanon*

2019 - Advanced Python Course — *Hamburg University, Germany*

- After **winning a Python competition**, I was granted the opportunity to attend Bernd Klein's Advanced Python course in Germany.

PROFESSIONAL EXPERIENCE

2020 → 2021 - Zaka — Computer Vision Engineer | Full-Time, Lebanon

- Developed **more than 10** computer vision products, most of which were **object detection** models such as facemask detection and clothes type and color detection. From **data collection and labeling** all the way to the **model training** and optimization, taking into account both **precision and computational optimization**.
- Mentored **20+ interns**, managing their tasks and progress and helping them achieve their goals.
- Thoroughly followed **agile methodology**, consisting of daily stand-up and weekly sprint planning meetings.

2019 → 2020 - Coder-Maker Club — Entrepreneurship | Part-Time, Lebanon

- Participated in the **creation** and **management** of an educational social enterprise; the Coder-Maker Club.
- Led the club's Beirut headquarters. This included the role of **Lead Trainer**, the handling of our students' parents communication, the students' progress and logistics reporting, and many more event creation tasks.

PERSONAL PROJECTS

2025 - Image To Story — GitHub Link

- Transform static images into engaging animated stories with AI-powered narration and visual effects.
- Designed and implemented an end-to-end animation pipeline combining **VLMs** (*BLIP*, *OWLv2*), **NLP** (*spaCy*), **speech synthesis** (*gTTS*, *ElevenLabs*), and **custom algorithms** for video generation using *MoviePy*, *OpenCV*, and *Gizeh*.

2023 → Present - Python Teaching YouTube Channel — Joseph Loves Python

- Created and published 60+ educational videos, gaining over **1,100 subscribers** and **75,000 total views**.

2022 - Artificial Intelligence Educator — **Zaka** | Freelance, Remote

- Taught **4 AI courses** to university students from various countries from the MENA and Asia regions. Course attendees ranged from **15 to 60+ students**, with an average length of 15 hours.
- Mentored a total of **6 teams** for a period of a month in preparation for their capstone projects.

SKILLS

Programming: Python 3 (Tensorflow/Keras, PyTorch, Pandas, Numpy, Matplotlib, Plotly, Beautifulsoup, etc.), Git, AWS (EC2, S3, Cloud9), Linux, HTML/CSS/JS, NVIDIA Transfer Learning Toolkit (TLT), Java, C/C++, SQL, C#.

Others: Writing/Documenting Clean Code, Oral/Written Communication, Academic Research, Agile Methodologies.

Interest Areas: Software Engineering, Deep Learning, Computer Vision, Data Visualization, Algorithmics, Teaching.

LANGUAGES

- Arabic — Native
- English — Bilingual
  - Academic IELTS - Band 8.5
- French — Bilingual

AWARDS

2020 - Google Hash Code Competition

1st Place in Lebanon.

2019 - Bodenseo Python Competition

1st Place Award.