



Robin Lange

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Key skills

Python, Linux, Machine Learning, MLOps, AWS, Git, Docker, PyTorch, Tensorflow, MongoDB, Rust, Databricks, Spark, SQL, Pandas, Jupyter

Education

- Undergraduate classes for Grandes Écoles (CPGE) PTSI branch then PSI, first in class rankings both years



CentraleSupélec

Engineer's degree from CentraleSupélec



Master of Computing (National University of Singapore)

GPA 3.9/4, took courses with a focus on robotics and artificial intelligence

Professional experience

- 2015 **Énercal** (1 month) field internship at a company doing power grid maintenance
- 2016 **WITHINGS Withings**: French company making smart wearables and health monitoring devices
 - Computer Vision Engineer** (6 months internship)
 - Tasked with designing and programming automated quality control stations for the assembly line of smart watches, then going on-site to China to install them
 - Developed a near real-time computer vision program to spot defects, running on an SBC with limited resources (Raspberry Pi 2)
 - Designed and built a motor driver for a mechanical test bench
- 2018 **See-Mode**
 - See-Mode Technologies**: Startup building AI-assisted medical image analysis software (first headquartered in Singapore then moved to Australia)
 - Computer Vision Engineer** (2 years)
 - As the first employee, developed from scratch a program to segment blood vessels out of medical images, which was used as the initial proof-of-concept
 - Developed the image processing backend in Python and OpenCV for the main application, still in use today
 - Developed a neural-network based Optical Character Recognition system for annotations on medical images, then a rule-based system for parsing those annotations in a context-aware manner
 - MLOps Engineer** (3 years)
 - Organized data labelling and developed some of the computer vision models
 - Created a pipeline to organize and productionize models developed by a research team (using PyTorch, Keras/Tensorflow, and Neptune for tracking)
 - Developed and managed a backend in the AWS Cloud to host machine learning models and do near real-time inference at low cost (first based on Sagemaker, then a custom solution based on Docker, ECS and Amazon's custom silicon for model inference, called Inferentia)
 - Created various internal Python packages for managing data and models, and notebooks for models evaluation and data analysis using Pandas
 - Tasked with ingesting and sorting millions of images and videos in the DICOM format, created and managed the internal database using MongoDB and AWS S3
 - Did various DevOps task, built CI/CD pipelines using Github Actions, monitoring dashboards using Grafana, AWS Timestream and Cloudwatch
- 2024 **AMADEUS Amadeus**: Multinational company providing software for the travel industry
 - Data Engineer** (1 year, as a contractor for the company EEKEM Sud-Est, with Amadeus as the sole client)
 - Managed pipelines ingesting massive amounts of data from partner airlines, for the development of pricing optimization models
 - Implemented data processing operations in Python and Scala, and scheduled them on Spark clusters on Azure Databricks
 - Optimized Spark operations for cost savings
 - Built internal monitoring dashboards from complex SQL queries

Personal projects and interests

- Interested in open-source in general, using Linux daily and well-versed in configuring and troubleshooting it
- Dabbling in systems programming, currently developing a toy x86 operating system in the Rust language and with a security model based on WASM sandboxing: <https://github.com/Askannz/munal-os>
- Other Github projects: reverse-engineering of a keyboard light control protocol (<https://github.com/Askannz/msi-perkeyrgb/>) and a tool for controlling GPU power on Linux laptops (<https://github.com/Askannz/optimus-manager>, over 2k Github stars)

Languages

- French (native)
- English (fluent after 5 years abroad in Singapore and Australia)
- Spanish (basic)