

R & D EXPERIENCE

NAVER LABS EUROPE

Grenoble, France

● PhD Resident - ANRT CIFRE Fund

June 2020 - May 2023

- Focused on implementing **deep learning**-based and geometry-based techniques on **mobile robots** in **real-world** environments.
- Worked on evaluating and interpreting the behavior of End-to-End neural agents in real-world scenarios. Deployed on **LoCoBot**, a mobile robotic platform.
- Worked on a new learning-based approach for **exploration** policy. Evaluated on **LoCoBot** for **way-point** and **Multi-Objects navigation** tasks.
- Integrated geometry-based algorithms in classical robotics for **mapping and planning**: SLAM, D* and Fast Marching Method.

● Research Engineer

Nov 2019 - May 2020

- Applied **domain adaptation** techniques in **visual localization** tasks (Camera Pose) and facial age estimation task.

● Research Engineer, Intern

Feb 2019 - Aug 2019

- **Award: Certificate of Achievement** for research contributions from Naver Labs Europe - **2nd place** on the Intern Day.
- Worked on **3D scene understanding** and **visual localization** for **autonomous vehicles**.
- Worked on deep learning techniques for **monocular depth** and **ego-motion estimation** using **self-supervised learning**.

ENGINEERING EXPERIENCE

MICROSOFT

Cairo, Egypt

● Research Software Development Engineer

Feb 2018 - Aug 2018

- Worked on **LUIS** (Azure Cognitive Service - www.luis.ai): Used **Angular2**, **C#** and Microsoft technology Stack to improve the user experience, to align with **GDPR** compliance and to optimize database queries for Language Understanding apps.

VALEO

Cairo, Egypt

● Software Engineer, Intern

June 2017 - Aug 2017

- Used **Java** and **C** to develop a tool that generates standard C file templates to interface with the microcontrollers for embedded systems projects in vehicles.

MENTOR GRAPHICS (SIEMENS)

Cairo, Egypt

● Software Engineer, Intern

July 2016 - Aug 2016

- Used **python** and **PyQT** to develop a library that automates the testing of Mentor Graphics' **Certus** Implementor/Analyzer. The library has been used to automate the GUI testing in **100+** test cases.

EDUCATION

INSTITUT NATIONAL DES SCIENCES APPLIQUÉES DE LYON (INSA LYON)

Lyon, France

● PhD in Computer Science

June 2020 - May 2023

- **Research Focus**: 3D Vision, Mobile Robotics, Reinforcement Learning, Sim2Real Transfer.
- **Supervisors**: Boris Chidlovskii, Christian Wolf and Atilla Baskurt.
- **Industrial Collaboration**: Naver Labs Europe (ANRT CIFRE Fund).

INSTITUT NATIONAL POLYTECHNIQUE DE GRENOBLE (ENSIMAG - INP GRENOBLE)

Grenoble, France

● M.S. in Data Science & Machine Learning

Sep 2018 - Sep 2019

- **Thesis**: 3D Scene Understanding: Self-supervised Learning for Monocular Depth Estimation and Ego-motion Estimation.
- **Relevant Courses**: Computer Vision, Advanced Learning Models, Convex optimization, Probabilistic Data Mining.

CAIRO UNIVERSITY

Cairo, Egypt

● B.S. in Computer Science (GPA: 3.7/4)

Sep 2013 - June 2018

- **Awards**: Dean's Honour's List, Excellence scholarship (All Semesters).

PUBLICATIONS

- Learning whom to trust in navigation: dynamically switching between classical and neural planning (Under review)
- Sadek, A. et al. - Multi-Object Navigation in real environments using hybrid policies(ICRA23)
- Sadek, A. et al. - An in-depth experimental study of sensor usage and visual reasoning of robots navigating in real environments (ICRA22)
- Chidlovskii, B. Sadek, A. Wolf C. - Universal Domain Adaptation in Ordinal Regression (Arxiv)
- Chidlovskii, B. Sadek, A. - Adversarial Transfer of Camera Pose Regression (ECCV20, TASK-CV-Workshop)
- Sadek, A., Chidlovskii, B. - Self-Supervised Attention Learning for Depth and Ego-motion Estimation (IROS20)

SKILLS

- **Programming**: Python, C++/C, C#, TypeScript, JavaScript, MATLAB, Java
- **Platforms**: PyTorch, Habitat AI Simulator, ROS, LoCoBot, Angular, Docker, Singularity, SLURM, Raspberry Pi
- **Languages**: Arabic (Native), French (Fluent), English (Fluent), Spanish (Advanced)