Charles Moatti

Stapferstrasse 61, 8006, Zürich, CH
charles.moatti@hotmail.fr; +41 78 793 73 55
Nationalities: Switzerland
France

Work Experience

Master thesis - Computer Vision Engineer Mar-Nov 2022
University Children's Hospital, Zürich, CH
- Researched, implemented and evaluated multiple state-of-the-art neuronal network segmentation algorithms for fetal and infant brain segmentation
- Utilized Python, PyTorch, Monai, nnU-Net, Plotly, git to develop and test the algorithms

Semester project - Embedded Software Engineer Sep-Dec 2021
Center for Project-Based Learning, D-ITET, ETH Zürich, Zürich, CH
- Selected and evaluated RTK and DRK-capable GNSS modules for sub-meter localization accuracy in the context of the Smartrail 4.0 program
- Utilized u-blox GUI, C, Python for operating the modules and data analysis

Machine Learning Intern, R&D Mar-Aug 2021
greenTEG, Rümlang, CH
- Modelled time series data using deep neural networks to predict core body temperature from sensor data, deployed on the CORE's microprocessor
- Utilized Python, PyTorch, C, Java, Linux, git for algorithm development and implementation

SURA Research Award Intern - Software Engineer May-Aug 2018
McGill Space Institute, Montréal, QC supervised by Prof. Victoria Kaspi
- Developed real-time software to quantify the RFI environment of the CHIME/FRB pipeline and remove it using statistical methods
- Utilized Python, Plotly, Flask, Django, SQLite, git for data analysis and algorithm development

Education

MSc, **Electrical Engineering and Information Technology** 2019-2022
ETH Zürich, Zürich, CH
CGPA : 5.21/6.00
- Focus at the intersection of software engineering, machine learning and hardware architecture

BSc, Honours Physics 2015-2019
McGill University, Montreal QC
CGPA : 3.80/4.00
- Bachelor's Thesis: developed a full machine learning pipeline (from preprocessing to model validation) to eliminate source of noises for the CHIME telescope

Publications

- C. Amatetti et al., *Towards the Future Generation of Railway Localization and Signaling Exploiting sub-meter RTK GNSS*, IEEE Sensors Application Symposium, 2022
- CHIME/FRB Collaboration et al., *Detection of Fast Radio Bursts at Radio Frequencies down to 400MHz*, Nature, 566, 2019
- CHIME/FRB Collaboration et al., *A second repeating fast radio burst source*, Nature, 566, 2019

Languages

- French: Mother tongue
- English: Fluent
- German: Advanced
- Spanish: Intermediate

Computer skills

Python, Java, C, JavaScript, Linux/Unix, git, docker, Django, SQL, HTML, CSS, Microsoft Office