# SELIM AMROUNI

527 West 113th Street, NY 10027, NEW YORK  |  (917) 563 – 2531  |  selim.amrouni@columbia.edu  |  https://linkedin.com/in/selimamrouni/

## EDUCATION

**COLUMBIA UNIVERSITY:**  Master of Science in Operations Research (Expected)    *New York, NY*
*Sep 2017 – Dec 2018*
- *Courses*: Deep Learning, Machine Learning, Reinforcement Learning (PhD class), Simulation, Stochastic Models, Optimization Models, Data Mining, Data Analytics
- *Teaching Assistant:* B9122 (PhD) Computing for Business Research – Grade students exams, Assist during recitations, Manage one-to-one advising in a class of 49 students
- *Course Assistant:* IEOR 4720 Deep Learning – Prepare TensorFlow code examples for lectures

**IFP SCHOOL:** Master of Science in "Energy & Markets" (Dual degree with CentraleSupelec)    *Paris, FR*
- Major in Economics applied to the Energy Sector    *Sep 2015 – Jun 2016*

**CENTRALESUPELEC:** *Diplôme d'Ingénieur Supélec*, equivalent to Master of Science    *Paris, FR*
- Major in Electrical Engineering and Applied Mathematics    *Sep 2013 – Jun 2016*

## PROFESSIONAL EXPERIENCE

**COLUMBIA UNIVERSITY NEW YORK PRESBYTERIAN:**    *New York, NY*
*Research Assistant – Data Science – Tatonetti Lab*    *Sep 2018 – Present*
- Investigate differential private models to enable anonymized clinical data sharing using Python
- Test models used in clinical research to assess performance of private models with Python

**NYU LANGONE HEALTH:**    *New York, NY*
*Data Scientist (Part-time)*    *Jun 2018 – Present*
- Continue research to improve current patient discharge prediction model using TensorFlow
- Explore optimization of surgery scheduling and operating rooms utilization (Pilot Program)

*Data Science Intern (Jun 2018 – Aug 2018)*
- Conducted research to build a capacity model to predict hospital bed availability for the next 72 hours
- Gathered the different databases from the hospital services using SQL, set-up the intra-day data acquisition process, built visualizations, engineered features and developed Graphical User Interface
- Delivered a product built in Python to enable bed staff to manage over 30,000 inpatients per year

**ENGIE INEO, Energy & Systems:**    *Paris, FR*
*Deputy Project Manager – Oil and Gas department*    *Jul 2016 – Jul 2017*
- Budgeted proposals during tendering phases with an average size: $300K – $12MM
- Performed web-scraping, API requests, data preprocessing and data analysis in Python

*Lead Engineer Intern (Summer 2015)*
- Designed the Polycom video conference architecture: Project Kaombo FPSOs (Total)

## RESEARCH EXPERIENCE

**COLUMBIA UNIVERSITY:**    *New York, NY*
*Deep Portfolio Management –Reinforcement Learning – Supervised by Prof. Shipra Agrawal*    *Sep 2017 – Dec 2018*
- Implemented a Policy Gradient for portfolio management based on the (Jiang et al. 2017) paper
- Developed of the simulation environment using Python and the CNN using TensorFlow

*Capsules Network (CapsNet) – Deep Learning – Supervised by Prof. Ali Hirsa*
- Implemented CapsNet model using TensorFlow and Google Cloud GPU computing with S&P 500 data

*DirectT Lab – Transportation Analytics – Supervised by Prof. Sharon Di*
- Analyzed real-world data to forecast churning of drivers and to cluster their lifetime value
- Developed data pre-processing, analysis and computation for MDP model using GeoPandas

*Spookie Kaggle Competition, Identify Horror Authors from Writings – Data Analytics*
- Engineered NLP features, predictive models test and selection using Python (Scikit-learn, nltk)

## SKILLS

| | |
|---|---|
| **COMPUTER** | Python (Numpy, Pandas, Keras, Scikit-learn, TensorFlow, Flask, Tkinter), Gurobi, SQL, Matlab, LaTeX |
| **LANGUAGES** | French (native language), Spanish (conversational) |
| **ACTIVITIES** | Independent side projects (DataCompetitions, Real-time gas stations price monitoring tool development, Song lyrics automatic generator), Co-founded & Managed Supeduc: a student union for private tutoring |