Hussein A. Houdrouge

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Education

École Polytechnique (l'X) - Paris-Saclay University — **Paris, France**
Master (M2) - Master Parisian of Research in Computer Science — *Fall 2017 - Spring 2019*
Master (M1) - Algorithms and Foundations of Programming Languages

American University of Beirut — **Beirut, Lebanon**
Bachelor of Science in Computer Science awarded with Distinction, — *Fall 2014 - Spring 2017*
Minor in Computational Science.

Bazourieh High School — **Bazourieh, Lebanon**
Baccalauréat in Life Science awarded with Distinction. — *2013*

Research Interests

Combinatorial Optimisation, Discrete and Computational Geometry, Computational Physics, and Complexity Theory.

Experience

Computer Science Laboratory of the Sorbonne University (LIP6) - RO Team — **Paris, France**
Worked on Design and Analysis of Geometric Approximation Algorithms (Hierarchical Clustering). — *2019*

LORIA/INRIA Grand Est Research Intern - Alice Team — **Nancy, France**
Worked on Shape Optimisation using Laguerre Diagram (Topological Optimisation). — *2018*

Social Integration of PWD in Mini-Paralympics — **Lebanon**
Worked with in a team on the design and the implantation — *2017*
of Mini-Paralympics across different areas in Lebanon.

Fundación Promoción Social de la Cultura (FPSC) — **Mount Lebanon**
Planned a social media strategy for Soccer Social School project — *Summer 2016*
(between FPSC, Real Madrid Fondacion, and Ministry of Education).

Scholarships and Certificates

United States Agency for International Development - USAID — **Beirut, Lebanon**
Awarded full scholarship to study BSc. in Computer Science at — *Fall 2013 - Spring 2017*
the American University of Beirut.

ACM - LCPC The Lebanese Collegiate Programming Contest — **Beirut, Lebanon**
Won the first place (team 1729). — *2016*

American University of Beirut — **Beirut, Lebanon**
Placed four times on the Dean's Honour List. — *Fall 2014 - Spring 2017*

AUB-Center of Civic Engagement and Community Service (CCECS) — **Beirut, Lebanon**
Awarded two certificates for participating in several volunteering activities. — *2013 - 2017*

Projects

Optimising Low Auto-correlation Binary Sequences — **Paris, France**
Implemented and compared the performance of several discrete optimisation — *2019*
Algorithms to find Low Auto-correlation Binary Sequences.

Scalable Nearest Neighbour Search Algorithms for High Dimensional Data — **Paris, France**
Implemented and studied the performance of several Data Structures — *2018*
that compute the approximate nearest Neighbour Search in High Dimensional Data.

Computing Geodesic Distance Based on Heat Flow   **Paris, France**
                                                                                   2017
Implemented a technique based on heat flow to compute the geodesic distance over meshes.
The implementation is based on this paper
https://www.cs.cmu.edu/ kmcrane/Projects/HeatMethod/index.html

Imgs   **Beirut, Lebanon**
                                                                                   2017
Implemented an Android mobile image search application based on
Machine Learning and Deep Learning techniques for final year project.

Volunteering

AUB-Center of civic Engagement and Community Service (CCECS)   **Beirut, Lebanon**
                                                                          Fall 2013 - Spring 2015
Volunteered in teaching students having difficulties in their schools' courses with Nasma NGO.
Volunteered in Beirut Marathon.
Participated in Juice for charity at AUB campus.

USAID, American University of Beirut   **Beirut, Lebanon**
                                                                          Fall 2013 - Spring 2015
Collected Data about public school for D-rassati Project.
Participated in sorting clothes in order to be distributed over Syrian refugee camps.
Volunteered in teaching mathematics to Palestinian students applying to SAT exam.

Languages

English: Fluent
French: Good
Arabic: Native

Computer Skills

Programming Languages: Java, C++11, Python, and Haskell.
Markup Language: LATEX and HTML.
Misc::   Git, CMAKE, Linux - Arch Linux, Ubuntu.
Frameworks and Libraries: NTL, GMP, and MPI(open-MPI).

Interests and Activities

Artistic: Drawing.
Intellectual: Reading "Goodreads account".
Scientific: Mathematics and Physics.
Mind Sports: Competitive Programming.
Sports: Cycling.