

ADEL MOUNZER SALEH

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”Nobody ever figures out what life is all about, and it doesn’t matter. Explore the world. Nearly everything is really interesting if you go into it deeply enough.”

Richard P. Feynman

For details on each of the CV entries, please visit my personal website.

▷ <https://adelsaleh.github.io/>

Education

American University of Beirut (AUB)

Masters in Mathematics	Spring 2018 - Fall 2021
Bachelor of Science in Mathematics	Graduated Spring 2017
Minor in Computer Science	Obtained Spring 2017

Collège Louise Wegman

Baccalauréat Libanais Section Science (Études secondaires en Français)	Graduated Summer 2010
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1ère École de la Physique du Plasma et de la Fusion
dans la Région MENA, organized by CEA¹.

Feb 2020

Research Interests

Functional analysis and PDEs ◊ Numerical simulations of PDEs ◊ Galerkin methods in non-linear PDEs
◊ Stochastic analysis and stochastic PDEs ◊ Stochastic methods in solving and simulating PDEs ◊ Mod-
eling and simulation of plasma of magnetic fusion plasma turbulence.

Projects and Publications

Traveling Waves of the HM Model ▷ <https://github.com/adelsaleh/hmSimulator> Upcoming
Publication to be submitted to *Applied Mathematics and Computation* (Elsevier) by June 2022: A.
Saleh, N. Nassif, S. Moufawad, G. Antar; *Rigorous derivation and simulation of stationary traveling wave
solutions of Hasegawa-Mima equation on the torus.*

Master’s Thesis ▷ <https://scholarworks.aub.edu.lb/handle/10938/23346> Jan 2022
Analysis and implementation of a time Euler implicit - space finite element approximation
to the Hasegawa-Mima Plasma Model with periodic boundary values.

MG-QTM Simulator ▷ <https://github.com/adelsaleh/qvm> June 2015 - Present
An ambitious project aimed at simulating MG-QTMs, a generalization of Stationary Rotational Quantum
Turing Machines (SR-QTMs). It started out as a final year project and is kept under occasional main-
tenance. I am responsible for developing the Arithmetic Logic Unit (ALU) of Quantum Virtual Machine
which simulates QTM’s.

Redink ▷ <https://github.com/adelsaleh/red-ink> May 2014
A desktop application for the AUB English Department. The application parses novels for locations and
builds word clouds associated with each location.

¹Intensive course on plasma physics and magnetic confinement fusion organized by Commissariat à l’énergie atomique et
aux énergies alternatives (CEA). This course is taught in the form of conferences by experts in the field of plasma and fusion
from France, Tunisia and various countries in the MENA region (Ecole Thématique)

Professional Experience

Research Assistant at American University of Beirut January 2022 - Present
Currently doing research on the stationary traveling waves of the Hasegawa-Mima equation.

Graduate Assistant at American University of Beirut Spring 2018 - Fall 2021
Assisted in teaching Statistics, Measure Theory, Topology, Numerical Analysis and Numerical Methods for PDEs.

Math Teacher at "Elite Tutors" Lebanese International Academy Fall 2017 - Summer 2021
I teach university level math courses such as calculus (III and IV), introduction to analysis, topology, linear algebra and differential equations.

Computer Skills

Software	Matlab, Octave and FreeFem++
Operating Systems	GNU/Linux and Windows.
Languages	C, C++ D, Java, Javascript, Python.
Markup and Scripting	Bash, CSS, HTML, L ^A T _E X, and markdown.
Tools	Git and Vim.

Languages

Arabic	Native
English	Fluent
French	Fluent

Extra Curricular Work

Personal Website ▷ <https://adelsaleh.github.io/> Jan 2022-Present
I am developing and maintaining a small portfolio website in which I detail all my work, research, and personal/professional projects.

AUB Free Software Club, Founding Member Fall 2013
AUB Free Software Club aimed to raise awareness about Free Software and specifically the GNU/Linux OS through the organization of workshops and talks about privacy and security. The club currently is inactive.

L^AT_EX Workshop March 2014
Alongside Ma3bar and the Computer Science Department at the American University of Beirut, the Free Software Club through myself gave a 4-hour long workshop about L^AT_EX.

AUB Outdoors

Outdoors is one of the largest student-run events in Lebanon and the Middle East attracting over 20,000 people every year. I performed four times (in 2012, 2013, 2014 and 2017) with several bands.

Hobbies

I'm a self-taught Guitar, Mandolin, Drums and Harmonica player. Chess medalist in high school.