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OBJECTIVE

Design and implementation of robust, maintainable, performant software systems, ideally in a consulting or leadership role.

AREAS OF INTEREST

- Expressive, performant code, esp. using functional programming paradigms and novel data structures.
- Systems programming (embedded, no GC) using safe memory models and zero-cost abstractions.
- Abstractions for high-level numerical computing in signal processing and computational physics/chemistry.

SKILLS AND QUALIFICATIONS

- Good understanding of the size/time/cognitive-load trade-offs for various designs, algorithms, programming languages, paradigms.
- Strong teamwork/mentorship/leadership skills.
- Solid background in digital signal processing.

EDUCATION

Doctor of Philosophy Chemistry, *University of British Columbia*, Vancouver, Canada
Supervisor: Prof. Mark MacLachlan 2011–2017

Bachelor of Science Electrical Engineering, *Sharif University of Technology*, Tehran, Iran
Supervisor: Prof. Khashayar Mehrani 2005–2009

SOFTWARE PROJECTS

pyMPB Python interface to MIT Photonic Bands

molsketch-cljs 2D sketching software implemented in Clojurescript

spectrum Processor for nuclear magnetic resonance (NMR) data (Go)

coalescence Simulation of frequency coalescence for stochastic oscillators (JS)

SOFTWARE SKILLS

Programming languages Clojure, Python, Ocaml, Rust, C, C++ [1]

Numerical/symbolic computing Julia, SciPy/NumPy, MATLAB, Mathematica

Other Git, LaTeX

LANGUAGES

Farsi, English Native

French, Italian Fair

ACADEMIC QUALIFICATIONS

Academic/research resumé available at github.com/hessammehr/CV.

[1] Familiar with Go, C#, Java, Haskell, x86 Assembly.