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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.
- Robust programming at the systems level (embedded, non garbage-collected) 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 of various designs, algorithms, programming languages, paradigms.
- Strong teamwork/mentorship/leadership skills

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

Github handle: github.com/hessammehr

pyMPB Python interface to MIT Photonic Bands

molsketch-cljs 2D sketching software implemented in Clojurescript.

spectrum Processor for nuclear magnetic resonance (NMR) data.

SOFTWARE SKILLS

Programming languages Clojure, Python, Ocaml, Reason, Rust, C, Go, C++, C#, Haskell, x86 Assembly[1]

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

Other Git, LaTeX

LANGUAGES

Farsi Native

English Near native

French, Italian Fair

Japanese, Spanish, Portuguese Basic

ACADEMIC QUALIFICATIONS

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

[1] In order of fluency.