Alexander Schaap

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Skills

Programming

Knowledge of ⟶ *Skilled in*

OCaml • Linux • LaTeX

Java • Lua • Git

Haskell • C++ • JS

Projects

E-Waste Scavenging Collecting e-waste from McMaster's on-campus collection bins to create working PCs subsequently given to friends and family.

Dana Website Written in Ruby and JS to connect restaurants for donating excess food and people who need it.

Rehistoric (GUI Version Control) Simple application to keep track of multiple file versions. Written in C++ and Qt.

Education

2017 - Now	**Ph.D., Software Engineering** (GPA: 3.8/4)	McMaster University, Canada

Software design choices as product line variabilities using OCaml.

2014 - 2016	**M.A.Sc., Software Engineering** (GPA: 3.9/4)	McMaster University, Canada

Multi-modularization code generation, using OCaml, Haskell and Java.

2009 - 2013	**B.Sc., Computer Science**	University of Twente, the Netherlands

Java, Haskell, SQL, networking, OS, etc. Thesis categorized Tor exit-nodes.

Experience

Mar 2014 - Now	**Grad. Research Asst./Research Engineer**	McMaster CERC in Hybrid Powertrain

Developing hybrid powertrains for Fiat Chrysler Automobiles (FCA):
- Reverse-engineer and analyze several large FCA Simulink models
- Lead the creation of documentation automation for Simulink models
- Port Simulink and C code to new hardware architecture
- Lead the migration of legacy automotive control software (Simulink & C) towards compliance with the AUTOSAR 4.2.2 standard
- Supervise undergraduate students (2+ years)

Jan 2020 - Mar 2020	**Student Employee (E-Waste Reuse)**	McMaster UTS, Canada

- Collected, sanitized, recorded and repaired e-waste on campus
  - Designed and implemented processes thereto
- Established and maintained relationships with student organizations
- Started event organization and distribution/storage of reusable e-waste

Jan 2018 - Apr 2018	**Graduate Teaching Assistant (CS 1XA3)**	McMaster University, Canada

Computer Science Practice & Experience, an introductory course for Functional Programming (FP), introducing students core concepts in FP and practical skills programming in Bash, Haskell and Elm.

Feb 2013 - Dec 2013	**IT Manager (part-time)**	Soltree Sustainable Solutions

Design/maintain website, network, and Linux systems.

Awards

2017, '18, '20	**Ontario Graduate Scholarship** (competitive; $15,000 each year)	
2016	**3rd prize at DeltaHacks II**	
2016	**W Booth Prize** (most innovative/entrepreneurial idea)	

Service & Outreach

2016 - 2017	**Life in Computing & Software (LiCS)**	McMaster University

Co-founder & VP-Tech of the first graduate student club to improve student life in the CAS department. Ran website and assisted in event organization.

Aug 2019 - Dec 2019	**Collaborator on 3S03 E-Waste Reuse Course Project**	McMaster University

Provided technical expertise to the "From Trash to Treasure" project by McMaster's Academic Sustainability Programs Office.

Sep 2020 - Now	**Collaborator on 3S03 Repair Café Course Project**	McMaster University

Provided technical expertise working together with the McMaster University Library McMaster's Academic Sustainability Programs Office.