Alexander Schaap

Ph.D. Candidate

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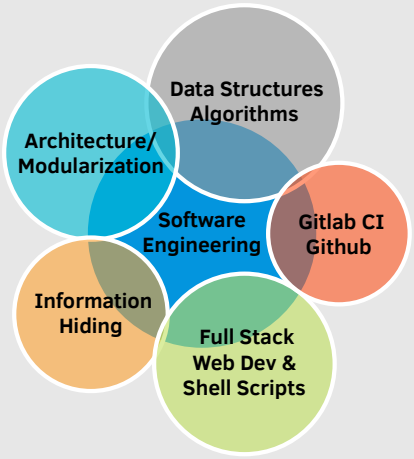
aschaap

Skills



Programming

Knowledge of ⟶ *Skilled in*

OCaml • Linux • LaTeX

Java • Lua • Git

Haskell • C++ • JS

Projects

Sysadmin OPNsense router, netboot server, and home server (ZFS) with BorgBackup (backups) and KanBoard (tasks).

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

Rehistoric (GUI Version Control) 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 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 - Now **IT Manager (part-time)** Soltree Sustainable Solutions
Design/maintain website, network, and Linux systems.

Publications

V. Pantelic, A. Schaap, A. Wassyng, V. Bandur, and M. Lawford. "Something Is Rotten in the State of Documenting Simulink Models". In: *Proc. 7th International Conference on Model-Driven Engineering and Software Development*. 2019.

A. Schaap, G. Marks, V. Pantelic, M. Lawford, G. Selim, A. Wassyng, and L. Patcas. "Documenting Simulink Designs of Embedded Systems". In: *Proc. 21st ACM/IEEE Int. Conf. on Model Driven Engineering Languages and Systems: Companion Proceedings*. 2018.

M. Bialy, V. Pantelic, J. Jaskolka, A. Schaap, L. Patcas, M. Lawford, and A. Wassyng. "Software Engineering for Model-Based Development by Domain Experts". In: *Handbook of System Safety and Security*. Elsevier, 2016, pp. 39–64.

A. Schaap. "Towards Generating Software Modularizations". Master's Thesis. 2016.

A. Schaap. "Characterization of Tor Exit-Nodes". In: *Proc. 18th Twente Student Conf*. 2013.

Awards

2017, 2018 **Ontario Graduate Scholarship** ($15,000 both years)

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.

2015 - 2019 **E-Sustainability Initiative** McMaster University
Collected and repaired e-waste for the community; collaborating with McMaster's ASP Office on course project and a reuse initiative.