

Alexander Schaap

Ph.D. Student



(289) 775 9192



alexander.l.schaap@gmail.com

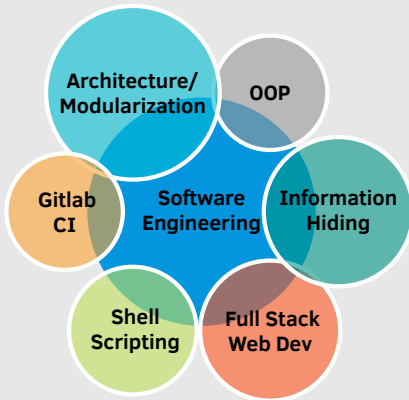


/in/alexanderschaap



aschaap

Skills



Programming

Knowledge of → Skilled in

OCaml • Linux • \LaTeX

Java • Lua • Git

Haskell • C++ • JS

Projects

Selfhosting OPNsense router, netboot server, and Debian home server on ZFS for backups via BorgBackup and task management via Kan-Board.

Dana Website in Ruby and JS to connect restaurants and charities for donating excess food (in return for advertising), and consumers for deals in said restaurants

- 3rd prize at DeltaHacks II
- W Booth Prize for most innovative or entrepreneurial idea

Rehistoric Simple GUI revision control for the uninitiated, written in C++ and Qt.

Education

- 2017 - Now **Ph.D., Software Engineering** McMaster University, Canada
Generated program families using multi-stage programming and generics in MetaOCaml. Variabilities include programming paradigm and sorting algorithms. Focused on deriving abstract interfaces to provide information hiding w.r.t. paradigm and other design choices.
- 2014 - 2016 **M.A.Sc., Software Engineering** McMaster University, Canada
Researched generating multiple module decompositions in MetaOCaml, Haskell and Java. Begun investigating paradigm-agnostic program family generation.
- 2009 - 2013 **B.Sc., Computer Science** University of Twente, the Netherlands
Thesis paper investigated Tor exit-nodes. Courses included Java & Haskell, SQL databases, networking, etc. Minored in Chinese language & culture.

Experience

- Jan 2017 - Now **Graduate Research Assistant** McMaster CERC in Hybrid Powertrain
Resumed position in collaboration between McMaster University and Fiat Chrysler Automobiles (FCA):
 - Researching and partaking in modification of automotive control software (Simulink) to domain-controller hardware architecture.
 - Researched migration of legacy automotive control software towards compliance with the AUTomotive Open Software Architecture (AUTOSAR) standard, in part via dSPACE SystemDesk.
 - Included largely independent supervision of multiple undergraduate students for a combined 12 months.
- Jan 2018 - Apr 2018 **Graduate Teaching Assistant** McMaster University, Canada
First-year Bash, Haskell and Elm course.
- Oct 2016 - Dec 2016 **Research Engineer** McMaster CERC in Hybrid Powertrain
Finalized documentation automation effort from previous position.
- Mar 2014 - Aug 2016 **Graduate Research Assistant** McMaster CERC in Hybrid Powertrain
Part of a large multidisciplinary project between McMaster University and Fiat Chrysler Automobiles (FCA) to develop hybrid powertrains:
 - Worked with domain experts to reverse-engineer, document and analyze several large FCA Simulink models.
 - Directed and took part in the creation of a process and accompanying templates for automated documentation of Simulink models.
 - Included the supervision of an undergraduate student for 16 months with minimal intervention of supervisors.

- Feb 2013 - Dec 2013 **IT Manager (part-time)** Soltree Sustainable Solutions
Primarily:
 - Joomla website design (HTML & CSS), SEO, and maintenance.
 - Maintaining SOHO computer network and communications.
 - Linux system maintenance and upgrades, tech support.

Awards

- 2017, 2018 **Ontario Graduate Scholarship (OGS)** McMaster University, Canada
Awarded \$15,000 both years.

Service & Outreach

- 2016 - 2017 **Life in Computing & Software (LiCS)** McMaster University
Co-founder & VP-Technology of the first graduate student club in the Computing & Software department.