# Andrew Blinn

February 8, 2019

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Toronto • Canada • Spoken Languages : English + French (basic)

*Passionate about programming languages as user interfaces. Seeking practical experiencing developing robust and lasting software. Keeps current with PL research, particularly at the intersection of PL and UX.*

## Work Experience @ University of Toronto, Canada

**Course materials development** *Summer 2018*
Developed code & documentation for professor David Liu's programming language theory course. Designed & implemented an educational language featuring pattern matching and algebraic data types

**DSL development** *Fall 2017*
Supported professor Gary Baumgartner in developing the CSC104 language, used for a $1^{st}$-year course in computational thinking. Focused on syntax rewriting and beginner-focused error reporting

**Teaching assistant** *Sep 2017 – Current*
Principles of Programming Languages (5 semesters); Introduction to Computational Thinking (1 semester). Responsibilities include lecturing, individual tutoring with a focus on TDD, code reviews, & semi-automated testing. Responded to student needs by initiating and building an algebraic code stepper to demonstrate continuations in Scheme

## Education @ University of Toronto, Canada

**H.BSc in Mathematics & Computer Science** *Graduating Spring 2019*
4.0 CS Program GPA. Led a student reading group on Category Theory. Compilers coursework: Developed a $\lambda$-calculus-based language with a macro system which both compiles to x86 and transpiles to C. Coursework in abstract algebra including Galois Theory, differential geometry, topology, & logic

**Research: Variational Data Structures with Marsha Chechik** *Sep 2018 - Current*
Developing & profiling higher-order data structures in Haskell to underpin static analysis of software product lines. Developed a Graphviz-based tool to visually introspect data sharing

**Research: Structured Editing in Racket with Gary Baumgartner** *Summer 2017*
Self-initiated study of extant refactoring, live programming, and direct manipulation tooling, culminating in the design and implementation of a Racket-based polyglot structure editor; development ongoing

## Skills

**Functional Programming:** Type- and Test-Driven-Development in Racket, Scheme, & Haskell. Property-based testing with QuickCheck. DSL development in Racket/Redex

**UI Design & Graphics :** CSS/HTML, mockups in Adobe CS incl. Photoshop, Illustrator, After Effects

**Performance Profiling & Parallelism/Concurrency :** C, C++, CUDA, OpenMP, & MPI

**Other languages & tech :** LaTeX, GNU/Linux, Bash, Git, Java, Python

## Conferences & Workshop Attendance

**ICFP 2018 (International Conference on Functional Programming)** *2018, St.Louis*
Attended fully-funded on PLMW Scholarship

**Strange Loop 2018 & RacketCon 2018** *2018, St.Louis*

**OPLSS 2018 (Oregon Programming Languages Summer School)** *2018, Eugene*
An intensive three-week program of lectures and workshops with leading PL researchers

## Personal Projects (see Github)

**Projects include:** Fructure, a Racket-based structured editor focusing on composable refactoring. Fructerm: a term-rewriting library for Racket with run-time specifiable rewrite-rules. Containment Patterns: A collection of custom pattern combinators enabling concise updates of deeply-nested data structures.

## Outside Interests

Year-round bike commuter. Running, bouldering, camping, photography.