ZHAOYI GE

Waterloo, ON
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EDUCATION

University of Waterloo September 2020 - May 2025
Bachelor of Computer Science (GPA: 91%)
Relevant Courses:
CS 245E - Logic and Computation (Enriched) - 100%
CS 241E - Foundations of Sequential Programs (Enriched) - 91%
PMATH 347 - Groups and Rings - 93%

RESEARCH INTERESTS

Programming language design, type system, semantics, logic in computer science.

RESEARCH EXPERIENCE

Univeristy of Waterloo September 2023 - December 2024
Undergraduate Research Fellow

- **Supervisor**: Yizhou Zhang
- **Project Title**: SSTAL: Stack-based Typed Assembly Language with Multi-stack Semantics
- The aim of this project was to develop an efficient target language for high-level languages with lexical effect handlers. The target language allows fast effect handling by having a type-safe multi-stack hierarchy.
  I implemented a prototype compiler of SSTAL in OCaml, which invovles designed and implemented type-checking algorithms for stack types and capabilities. This work is to be submitted to ICFP 2024.

WORK EXPERIENCE

Genesys May 2023 - August 2023
Software Developer Intern *Markham, Ontario*

- Led the development of a security automation service in Python for cloud native applications.

MeshAI May 2022 - August 2022
Software Developer Intern *Remote*

- Developed healthcare services using Java and GraphQL. Improved response time by caching using Redis.

PROJECTS

Proust CS 245E Course Project

- Developed a simple interactive proof assistant for propositional and predicate logic using Racket.
- Proved theorems about natural numbers and Boolean algebra using the proof assistant.

Lacs CS 241E Course Project

- Implemented a compiler for a minimal Scala-like language using Scala.
- Developed features such as garbage collection, higher-order functions and closures.

TECHNICAL SKILLS

Languages	OCaml, Coq, Scala, Agda, Racket, C++.
Tools and Technologies	Git, Docker, x86 Assembly.