# ZHAOYI (AUGUST) 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 Systems / Semantics / Logic in Computer Science.

## RESEARCH EXPERIENCE

**Univeristy of Waterloo** September 2023 - Present
*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 and type safe 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 OOPSLA 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*

- Built 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

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