

# APOORV INGLE

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Web Page: <https://cs.uiowa.edu/~aningle>  
Github: <https://github.com/fixdpntthm>

## EDUCATION

PhD Computer Science, The University of Iowa  
Department of Computer Science. Aug 2020 – Current  
Focus: Type Systems for Functional Programming Languages.  
CGPA: 4.15/4.0

MS Computer Science, The University of Kansas  
Department of Electrical Engineering and Computer Science. Aug 2016 – Aug 2018  
Thesis: QuB – A Resource Aware Functional Programming Language.  
CGPA: 3.96/4.0

B. Tech., Vivesvaraya National Institute Of Technology  
Department of Computer Science and Engineering Jul 2010 – May 2014  
Thesis: Sentiment Analysis; Sarcasm Detection in Tweets.  
CGPA: 7.82/10.0

## INTEREST AREAS

Functional programming language theory and implementation, type systems, formal verification.

## EXPERIENCE

- Graduate Research Assistant**  
CLC, The University of Iowa, Iowa City, IA. Jan 2021 – Present  
Design, formalize and implement type systems for functional programming languages.
- Graduate Research Assistant**  
CLC, The University of Iowa, Iowa City, IA. June 2020 – Dec 2020  
Implemented the type checker and improved front end for the Kind2 Model Checker.
- Graduate Research Assistant**  
ITTC, The University of Kansas, Lawrence, KS. Jan 2018 – May 2020  
Researched on substructural type systems for resource management in programming languages.
- Graduate Student Summer Intern**  
eBay, San Jose, CA. May 2017 – Aug, 2017  
Worked on a proof of concept with the platform engineering team to help them reduce by 60% the software infrastructure footprint of the site-wide cloud monitoring system.
- Graduate Teaching Assistant**  
The University of Kansas, Lawrence, KS. Jan 2017 – Dec 2017  
Managed lab sessions, grading, and designed student projects for EECS 678: Introduction to Operating Systems (S17), and EECS 560: Data Structures (F17)
- TX: Over the counter (OTC) Trade Deal Capture System**  
Morgan Stanley, Bangalore. Aug 2014 – Jul 2016  
Helped maintain and enhance OTC equity derivatives trade deal booking and life cycle management system. Specialized in finance product creation pipeline.

## PROJECTS

1. **GHC Contributor**  
Feature implementation and bug fix for the Glasgow Haskell Compiler.
2. **Partial Types in GHC**  
Implementation of Partial Type Constructors in GHC.
3. **Kind2 Model Checker**  
Redesigned the front end of the Kind2 model checker and implementing a type checker for the surface level language for Lustre in OCaml.
4. **h-reversi: Reversi Game**  
Implemented a two player Reversi/Othello game in Haskell. It has click-based web user-interface and can detect invalid moves and end game.

## TALKS and POSTERS

1. **Partial Type Constructors in Practice**  
Ljubljana, Slovenia Oct 2022  
**Talk** at Haskell Symposium
2. **Bunched Separation Polymorphism**  
Purdue University, W. Lafayette, IN Sep 2019  
**Short Talk** at Midwest Programming Language Summit
3. **QuB – A resource Aware Functional Programming Language**  
International Conference on Functional Programming, St. Louis, MO Sep 2018  
Poster at **Student Research Competition**

## REPORTS and PUBLICATIONS

1. Apoorv Ingle, Alex Hubers, and J. Garrett Morris. Partial type constructors in practice. In *Proceedings of the 15th ACM SIGPLAN International Haskell Symposium*, Haskell 2022, pages 95–107, New York, NY, USA, 2022. Association for Computing Machinery. <https://dl.acm.org/doi/10.1145/3546189.3549923>
2. Apoorv Ingle. Dialects for Type Computation. Technical report, The University of Iowa, IA, USA, 2021. <https://github.com/foxpntthm/qual-exam/blob/main/qual.pdf>
3. Apoorv Ingle. *QuB: A Resource Aware Functional Programming Language*. Masters thesis, The University of Kansas, 2018. <https://kuscholarworks.ku.edu/handle/1808/27760>

## NON TECHNICAL/SERVICE

1. **Video Chair**  
SIGPLAN Conferences Nov 2021 – Present  
Conference wide responsibility of recording, streaming and post processing talks archived on **SIGPLAN's YouTube Channel**: **POPL 2022**, **ICFP 2022**, **POPL 2023**, **ICFP 2023**, **SPLASH 2023**, **POPL 2024**
2. **President**  
The University of Iowa Badminton Club May 2023 – Present  
Responsible for all aspects of the club: budget, team travel, scheduling.