APOORV INGLE

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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

1. **Graduate Research Assistant**
   CLC, The University of Iowa, Iowa City, IA.   Jan 2021 – Present
   Design, formalize and implement type systems for functional programming languages.

2. **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.

3. **Graduate Research Assistant**
   ITTC, The University of Kansas, Lawrence, KS.   Jan 2018 – May 2020
   Researched on substructrual type systems for resource management in programming languages.

4. **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.

5. **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)

6. **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**
   Redesiged 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/fxdpntthm/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.