Nachiappan Valliappan

Personal Data

Address: Marconigatan 9, Göteborg, 421 44, Sweden
Phone: +46 762 838321
email: nachivpn@gmail.com

Areas of interest

Functional programming, Distributed systems, Type theory, Category theory

Education

2016-18 M.Sc. Computer Science, **Chalmers University**, Sweden
Algorithms, Logic and Languages. (Avg. grade: 4.8/5)

2010-14 B.Tech. Computer Science, **National Institute of Technology**, Calicut
Courses with interest in programming language theory and technology

Work Experience

Jun - Aug '17 | Summer Student, **CERN**
Worked on developing a programmable software framework for delegating and distributing execution of accelerator commissioning tasks at the Large Hadron Collider

Jan '17 - Jan '18 | Teaching Assistant, **Chalmers University**
Lab supervision and grading assistance for the Data Structures (DIT960) and Introduction to Object Oriented Programming (TDA540) courses

Aug '16 - Dec '16 | Freelance Developer, **Independent**
Developed backend systems for mobile apps, primarily in Java

Jun '15 - Aug '16 | Staff Engineer (Software R&D), **Acrodelon**
Worked on problems across projects focusing on distributing and scaling backend systems using AWS cloud services

Jun '14 - May '15 | Software Engineer, **ShieldSquare**
Continued an internship into a full-time role involving analyzing network traffic for bot behaviour patterns and implementing a classifier for filtering malicious bot behaviour

Technical Skills

Languages: Haskell, Java, Erlang, Agda
Compiler tools: Lex, Yacc, BNFC, Erlang compiler eco-system
Databases: MongoDB, SQL, Redis
Cloud services: AWS, Google Cloud

Projects

Master Thesis — Static typing of Erlang programs using Partial Evaluation
This thesis aims to implement a Haskell like type checker for Erlang aided by partial evaluation as a compiler *parse transform*; supervised by John Hughes, at Chalmers (Work in progress)

Side Project — Adding Variety to Simplicity
Joint work with Alejandro Russo et al at Chalmers on implementing Simplicity - a programming language for Blockchain applications - as an eDSL in Haskell (Work in progress)

Project course — A logical operational semantics for a concurrent language
The goal of this project was to develop a formal basis for reasoning about concurrent imperative programs by using Lamport's Temporal Logic of Actions; supervised by K.V.S. Prasad, at Chalmers

Bachelor project — A pedagogical framework for the compiler design laboratory
supervised by Murali Krishnan K, at National Institute of Technology Calicut

Pet Project — A constructive formalization of category theory in Agda

Natural Languages

Mother tongue: Tamil
Fluent: English
Familiar: Malayalam, Hindi

Activities

Organizer: Papers We Love, Gothenburg chapter
Volunteer: Chalmers International Reception Committee

References

- John Hughes, Professor, Chalmers (rjmh@chalmers.se)
- Murali Krishnan K, Associate Professor, NITC (kmurali@nitc.ac.in)
- Marc-Antoine Galilee, Software Engineer, CERN (mgalilee@cern.ch)

Hobbies

Reading, Yoga, Programming, Theorem proving