

# Abhiroop Sarkar

Functional Programming, Compilers, Parallel Programming, Big Data

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## EXPERIENCE

### Google Summer of Code, Haskell.org — *Contract Developer*

MAY 2018 - PRESENT

Added SIMD instruction support to the Glasgow Haskell Compiler

### Typelead, Bangalore — *Senior Software Engineer*

MARCH 2017 - JUNE 2017

- First engineering hire at TypeLead, the company developing [Eta](#), a Haskell dialect that runs on top of JVM.
- Porting of Software Transactional Memory features from the GHC runtime to the Eta runtime.
- Building Eta-FFI, a tool for generating FFI code for interacting with Java libraries.

### Quintype, Bangalore — *Software Engineer (Clojure)*

MAY 2016 - FEBRUARY 2017

- Design and development of the Elastic Search cluster serving the realtime analytics of the [Quintype platform](#).
- Design and maintenance of the OLAP analytics platform of Quintype written entirely in Clojure.

### Trestor, Chandigarh — *Software Engineer*

NOVEMBER 2015 - APRIL 2016

Design and implementation of a cryptocurrency protocol. Codebase open sourced [here](#).

### Capillary Technologies, Bangalore — *Software Engineer*

MAY 2014 - NOVEMBER 2015

- Design and implementation of a low latency, high throughput communication engine.
- Design and implementation of a live monitoring system for analytics on the performance of the communication engine.
- Designed and implementation of Apache Mahout based Recommendation Engine.

### Google Summer of Code, Remote — *Contract Developer*

MAY 2013 - SEPTEMBER 2013

Ported old Perl / CGI based Reactome search facility to Lucene/ Solr based engine.

## LANGUAGES

Haskell, Java, Clojure,  
Erlang, C#

## TECH BLOG

[abhiroop.github.io](http://abhiroop.github.io)

## OPEN SOURCE CONTRIBUTIONS

[Glasgow Haskell Compiler](#),  
[Eta](#), [Liquid Haskell](#), [Cloud Haskell](#)

## GITHUB HANDLE

[github/Abhiroop](https://github.com/Abhiroop)

## EDUCATION

### University of Nottingham, Nottingham — *MSc Computer Science*

SEPTEMBER 2017 - PRESENT

- THESIS: Adding support for SIMD (Single Instruction Multiple Data) operations to the native code generator of the Glasgow Haskell Compiler.
- Courses in Compilers, Advanced Algorithms and Data Structures, Distributed Systems, Mathematical Foundations of Programming.
- Attended the Midland Graduate School. 2018 attending lectures and exercises on Category Theory, Lambda Calculus, Theorem Proving using Idris etc.

### BITS Pilani, Goa, India — *MSc (Hons) Mathematics*

AUGUST 2010 - DECEMBER 2014

## PROJECTS

### snape — [github](#)

A native distributed parallel computing framework in Haskell. This is a work in progress.

### fiboheap — [github](#)

A new purely functional implementation of fibonacci heap in Haskell.

### okasaki — [github](#)

Haskell implementation of major purely functional data structures including the ones defined in Okasaki's classic textbook.

### opto — [github](#)

Modular Profunctor optics implemented in Haskell.

### MiniTriangle — [github](#)

Toy language with a type system and optimizing runtime written in Haskell.

## OTHER ACHIEVEMENTS

- Cleared the Regional Mathematical Olympiad 2006
- Winner of Google Developers Hackathon, Goa Edition, 2013