

## Ashutosh Rishi Ranjan

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### Education

**University of Melbourne**  
**M.Sc. Computer Science**

*Graduated in July 2016*

- **Weighted Average:** 79.5
- Relevant courses: Declarative Programming, Programming Language Implementation, Web Search & Text Analysis, Distributed Systems & Distributed Algorithms, Cluster & Cloud Computing, Parallel & Multi-core Computing.

**Symbiosis University, Pune, India**  
**B.Tech. Computer Science**

*Graduated 2014*

### Coursework Projects

**Masters Research Project on the Wybe Compiler**  
**University of Melbourne**

*2015 to 2016*

- Worked on a compiler for a new multi-paradigm language, *Wybe*, with a new Logic Programming based Intermediate Representation (*LPVM*) and a LLVM target.
- Wrote the back-end of the Compiler in Haskell.
- Researched and implemented various techniques to create an incremental and work-saving compilation process.
- Compiler includes a modern GNU Make-like build system.
- Thesis link: <https://github.com/ashutoshrishi/wybe-thesis>

**Compiler for a Toy Language in OCaml**  
**Programming Language Implementation, UniMelb**

*Semester 1, 2016*

- Implemented a complete compiler for a toy language in OCaml as part of a semester long project.
- Developed a basic *diff* based testing framework in OCaml for continuous testing of the compiler outputs as extra work: <https://github.com/ashutoshrishi/difftest>
- Project link: <https://bitbucket.org/pli2016/beanc>

**Twitter Analysis REST Service over an Open Stack IAAS,**  
**Cluster and Cloud Computing, UniMelb**

*Semester 1, 2015*

- Wrote a Python client to harvest geo-located tweets around SF into a CouchDB instance. The client ran as a daemon parallelly from two different servers.
- Wrote a Python application to perform several different natural language analyses on the stored data using CouchDB Map-Reduce views, and served their results through a REST API.
- Set up a NGINX web server on an instance to host a website presenting this data through client-side graphs and heat maps.
- We built our own orchestration tool using Bash scripts and rsync, imitating *Ansible*.

### Experience

**Web Developer,**  
**Melbourne Web Co.**

*Contract basis, 2015*

- Worked independently and within a team environment on multiple web development projects using the Wordpress platform for local Australian businesses.

- Developed custom Wordpress plugins in PHP for a few jobs.

**Intern, Assistant to Project Manager,  
Bahwan Cybertek, Oman**

*June 2013*

- Modelled an implementation of an IBM Maximo Asset management solution for a client.
- Created a concept design for a responsive website for Bahwan Cybertek for the IT team.

**IT Intern,  
HELLA India**

*January to May, 2013*

- Developed a complete new in-house Inventory Management System on a PHP back-end for the team responsible of maintaining the local HELLA electronics stock.
- Configured and Deployed an Employee Training Portal using the Moodle framework.
- Recorded usage videos and documentation to help other teams in their adoption of the portal.

## Code

Github: <https://github.com/ashutoshkrishi>

Bitbucket: <https://bitbucket.org/ashutoshkrishi/profile/teams>

## Technical Skills

### Languages:

Current Projects: Haskell, Elm, Javascript (ES6+5)

Worked With: Python, OCaml, Java, C, PHP, C++

**Programming language implementation:** Compiler Design using LLVM

### Web Development and Design:

- Programmed back-ends in Javascript, Haskell, Python and PHP.
- Experience with designing and using REST APIs.
- JS Toolkit: ReactJS, Express, JQuery among others.
- Front-end development with responsive design and a focus on good UI/UX.

### Platforms:

- Experienced with Unix/Linux; Configuring NGINX and Apache web servers on Linux.
- Worked on projects built upon Open Stack.
- Project Source: <https://bitbucket.org/cccteam6/cctwittersearch>

## Extra Curricular Activities

### Co-Head, Student Technical Committee

*2012*

*Symbiosis Institute of Technology, Pune, India*

- Developed the annual college festival website and registration back-end in PHP.
- Managed the team's finances and technical logistics, while collaborating with other teams.
- Created designs for the brochures and provided other design related guidance to other teams.

## Referees

Available Upon Request.