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bshlgrs.github.io

EMPLOYMENT

Australian National University

Dec 2013 – May 2014

Web development contractor

- Built, deployed, and maintained a new submission system for the Introduction to Computer Science course, in Rails

App Academy

Jan 2014 – Jul 2014

Teaching Assistant

- Developed curriculum. Wrote and presented lectures. Provided one-on-one instruction and feedback. Developed and maintained internal Rails and Backbone tools. Taught Ruby, Rails, Javascript, and Backbone.js. Interviewed and vetted applicants.

Australian National University

2013-2014

Teaching Assistant

- Provided instruction in introductory Python, Java, and Haskell, as well as data structures and algorithms and software engineering principles. Developed assignments and exams. Delivered oral exams.

EDUCATION

Australian National University

2012-2014

Bachelor of Science (Computer Science, minoring in Physics)

- Undergraduate coursework: Algorithms, operating systems, AI, algorithmic information theory and universal AI, theory of programming languages, computer architecture, linear algebra and ODEs, theory of computation
- Director and presenter at CompCon, an inaugural Australian undergraduate CS conference; presented on algebraic behaviour of data structures
- I completed two research projects and a variety of advanced undergraduate courses ahead of my year level.

SELECTED PROJECTS

Australian National University

Nov 2013– May 2014

Submission App (github.com/bshlgrs/submissionapp)

- Submission system in Rails, jQuery, and Unix shell scripting.
- Significant test suites (over 100 tests), to ensure reliability
- Designed interface for lecturers to customise behaviour of assignments on submission (e.g. Haskell compilation, automatic marking against test specs)

rPeANut compiler (github.com/bshlgrs/rpeanut-compiler)

May 2014– current

- Compiler from a subset of C including pointer arithmetic to a RISC instruction set
- Written in Scala as personal project

Graphical Equation Manipulator, Python prototype (github.com/bshlgrs/pygem)

2013

- Software for manipulation of equations in physics. Like Mathematica but user friendly and aimed at physics students.
- Used Python, Sympy, Tkinter.
- Developed software from conception to prototype to user studies with eleven users.
- All eleven subjects thought the software let them work faster than Mathematica did.

SKILLS

General: Machine learning, deep learning, algorithms, operating systems (esp. Linux kernel), computer systems, C/C++/Java

Web development: Ruby, Python, Rails, Scala, git, Javascript, HTML/CSS