Louis Jenkins

34 W Montgomery Ave, Ardmore, Pennsylvania 19003, USA
LouisJenkinsCS@hotmail.com • +1 (610) 931-1207
https://www.linkedin.com/in/LouisJenkinsCS • http://github.com/LouisJenkinsCS • http://LouisJenkinsCS.github.io

EDUCATION

BLOOMSBURG UNIVERSITY OF PENNSYLVANIA Bloomsburg, PA — expected *Fall 2017*

- Bachelor of Science (B.S.) in Computer Science — GPA 3.0
- Dean's List — *Spring 2014, Fall 2015, Fall 2016, Spring 2017*

RESEARCH EXPERIENCE

STUDENT RESEARCHER, Lehigh University, Bethlehem, PA — *Summer 2016*

- **Project:** Concurrent and Scalable Built-in Hash Table for the Go Programming Language
- **Advisor:** Michael F. Spear
- **Awards:**
  - Peer's Choice for Outstanding Project.
  - Honorable Mention for CRA 2017 Outstanding Undergraduate Researchers, sponsored by Microsoft Research.
- **Publication:** L. Jenkins, T. Zhou, & M. Spear, "Redesigning Go's Built-In Map to Support Concurrent Operations" Parallel Architectures and Compilation Techniques (PACT) 2017.
- **Summary:**
  - Designed and implemented a novel scalable lock-based concurrent map for Go's runtime and compiler.
  - Implemented with compatibility for Go map syntax; supports insert/lookup/remove and concurrent iteration.
  - Outperforms sequential map by up to 7x across diverse microbenchmarks, competitive against lock-free maps.

WORK EXPERIENCE

GOOGLE SUMMER OF CODE, Chapel, Cray Inc. — *Summer 2017*

- **Project:** Distributed Data Structures
- **Mentors:** Engin Kayraklioglu, Michael Ferguson
- **Summary:**
  - Designed the first data structures interface for the Chapel programming language.
  - Designed and Implemented the first scalable ordered data structure for PGAS languages (≈ 100x @ 3072 Processors).
  - Designed and Implemented a scalable unordered data structure (≈ 500x @ 3072 Processors).

MISC. EXPERIENCE

INDEPENDENT STUDY, Bloomsburg University, Bloomsburg, PA — *Fall 2017*

- **Project:** Designing a Monadic Java Virtual Machine
- **Advisor:** William Calhoun
- **Summary:**
  - Developing the first Java Virtual Machine written in a pure language, Haskell.
  - Goal to determine whether this is possible and, if so, what are the benefits and drawbacks.
  - Result should be a mostly implemented JVM with performance comparisons.

INDEPENDENT STUDY, Bloomsburg University, Bloomsburg, PA — *Fall 2016*

- **Project:** Open Source Software for Efficient Evaluation of Student Code
- **Advisor:** Drue Coles
- **Summary:**
  - Developed a free open source tool that helps automate the process of grading and leaving feedback for students.
  - Designed to promote a Write-Once Reuse-Anywhere philosophy of templated markups.
  - Implemented support for 169 languages and can be run on any platform with Java 8.

SKILLS

LANGUAGES

- **Proficient**: C, Java
- **Familiar**: C++, Chapel, Go, Haskell

PERSONAL PROJECTS

MOLTAR-OS - HOBBY OPERATING SYSTEM

- Developing an operating system in C and Assembly for the 32-bit x86 architecture for academic purposes.
  - Implemented virtual memory, interrupts, basic VGA and keyboard driver, and uniprocessor multitasking.
  - Designed to take a higher-half approach to virtual memory with 4MB pages.
  - Building from the ground up with POSIX-compliance as a long-term goal.

ANDROID WINDOW MANAGER

- Created new window manager for Android, which allows the user to configure predefined Widgets.
  - Allows user to drag, resize, minimize, maximize, and snap Widgets via touch, and preserves user sessions.
  - Widgets include a web browser, notepad, screen recorder, and Google maps.
  - In-progress features include support to allow user creation of custom Widgets using a built-in WYSIWYG editor.