Clayton Thomas

Education

2014–2017 **B.S. in Computer Science**, *Purdue University*, GPA: *4.00*.

2014–2017 **B.S. in Mathematics**, *Purdue University*, GPA: *4.00*.

Publications

V. Gandikota, E. Grigorescu, C. Thomas, and M. Zhu. Maximally recoverable codes: The bounded case. In *Allerton Conference on Communication, Control, and Computing*, 2017.

Talks

October 2017 **MR Codes: The Bounded Case**, *Allerton 2017*.
Presentation in coding theory session.

September 2017 **MR Codes: The Bounded Case**, *Purdue theory seminar*.
Presented proofs and details of our paper.

Work Experience

Summer 2017 **Facebook Software Engineering Intern**, *Menlo Park, CA*.
Worked on Retrie, a Haskell refactoring tool written by Andrew Farmer. Created a system for building complicated refactors from simple ones by manipulating and combining lookup tries.

Summer 2016 **Facebook Software Engineering Intern**, *Seattle, WA*.
Worked on Haskell code quality, debugging, and efficiency for site integrity teams using Facebook's Sigma infrastructure.

Summer 2015 **Salesforce Software Engineering Intern**, *Indianapolis,IN*.
Predictive Intelligence (iGoDigital) intern. Created a Google Chrome developer extension for debugging client installations of Predictive Intelligence embedded Javascript, which collects browsing data.

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ClathomasPrime

Independent Projects

Independent coding projects, all available on my GitHub

January 2017 **Ramsey Languages**.
Haskell implementations of a simple imperative programming language and a simple Lisp. Based on operational semantics from Norman Ramsey's book Programming Languages: Build, Prove, Compare.

March 2016 **Fair Read-Write Locks**.
A kernel-level read-write lock implementation in the Xinu operating system, giving readers and writers access in exactly the order they request it.

January 2016 **Free Decision Trees**.
A rudimentary library to train and apply decision trees, represented as the free monad over the reader functor.
`http://clathomasprime.github.io/hask/freeDecision`

August 2015 **Joy Interpreter**.
A small, toy interpreter for the stack based functional language Joy. Written in Haskell.

April 2015 **Haskell algorithms**.
Implementations of a heap based priority queue, red-black trees, prefix trie, suffix trie, find-union of sets, and finding minimal spanning trees.

2013 **ForceBoard**.
A Java application for simulating the motion of objects influenced by gravity, springs, drag, etc.

2012 **Simple Deriver**.
A Java application that parses equations, symbolically derives them, and plots the result.

Courses

Graduate Courses.
Algorithms, Reasoning about Programs,
Abstract Algebra, Complex Analysis, Topology

Relevant Undergraduate Courses.
Theory of Computation, Programming Languages, Data Mining,
Operating Systems, Compilers, Artificial Intelligence,
Real Analysis, Multivariate Analysis, Galois Theory

Leadership and Service

2016–2017 **Climbing Wall Routesetter**.
Designed climbing routes for the Purdue Rec Center climbing wall. Oversaw climbing competitions.

2014–2017 **Tumbling for Cancer Research**.
Purdue gymnastics fundraiser in which we set up on campus and ask people for "tips for flips", i.e. we do gymnastics if they donate. Proceeds go to the American Cancer Society.

2016 **Purdue Outing Club Rock Climbing Service**.
Attended the 2016 Muir Valley trail day with the Purdue Outing Club, developing trails to new climbing areas. Lead multiple beginner trips for the Outing Club.

2015 **Foundations of Computer Science TA**.
Led recitations, wrote review material and practice problems, answered online forum questions, graded quizzes.

2015–2016 **Purdue Gymnastics Team Captain and Webmaster**.
In charge of setting teams, helping people organize their routines, coordinated judges for our home meets, and updating our website.

Awards and Honors

2014–2017 **Purdue University Dean's List and Semester Honors**.

2015 **Neel Scholarship**.
Awarded by the computer science department for class performance

2014–2017 **National Merit Corporate Scholarship**.
Provided by Dow AgroSciences