

Rachit Nigam

☎ (413)406-8526 | ✉ rnigam@umass.edu | 🏠 people.cs.umass.edu/rnigam | 📄 github.com/rachitnigam

Education

University of Massachusetts Amherst

B.S. COMPUTER SCIENCE, B.S. MATHEMATICS | HONORS STUDENT

2015 - 2019

- GPA: 4.00
- Relevant Coursework: CS 691PL (Graduate) Advanced Programming Languages, CS 631 (Graduate) Programming Languages, CS 250 Theory of Computation
- Received Chancellor's scholarship of the highest award value for outstanding academic achievements in high school.

Skills

- Programming Languages: *Scala, OCaml, Racket, Java, JavaScript, HTML, CSS, Bash, Python*
- Tools: *git, sbt, Z3, Vim, tmux, Make, Emacs, Docker*
- Frameworks: *Node.js, scala.js*
- Platforms: *Ubuntu, Debian, Mac OS*
- Areas of Experience: *Programming Language Design, Program Synthesis, Dynamic Code Analysis*

Experience

Programming Languages and Systems at Massachusetts

RESEARCH ASSISTANT

Fall 2016 - Present

- Worked on FISSION, a dynamic tier splitting tool for JavaScript that allows users to write a single program for a web application, instead of two in the traditional server and client side model.
- Developed dynamic code splitting techniques that preserve security guarantees for private data.
- Added support Elm, a client side scripting language, into the tool.

University of Massachusetts Amherst, Residential Life

ACADEMIC PEER MENTOR

Fall 2016 - Present

- Live-in mentoring position. Provided academic and transitional support to over a 100 college freshmen.
- Hosted 6 events over the course of a semester to help foster a sense of community among new college students and familiarize them to college resources.

Programming Languages and Systems at Massachusetts

RESEARCH ASSISTANT

Summer 2016

- Developed a code synthesis tool for Puppet, a system configuration language, that generates edits for the program using constraints generated by user interaction in the shell.
- Encoded semantics of Puppet using Z3, a theorem prover by Microsoft, in order to generate edits.

Honors & Awards

Honors Research Fellowship

COMMONWEALTH HONORS COLLEGE, UMASS AMHERST

Spring 2017

- Recipient of honors fellowship to conduct research over the semester of Spring 2017.

MITRE Best Project in Public Interest, Overall Finalist

HACKUMASS IV

Fall 2016

- Developed a working application that analyzes a live feed and maps it to a set of possible situations. Made use of Clarifai's API to generate probabilities for image tags. Created and implemented a statistical inference algorithm to infer the situation using the probabilities for the image tags.

Mentoring Workshop Scholarship

PROGRAMMING LANGUAGES MENTORING WORKSHOP AT ICFP 2016

Fall 2016

- Awarded scholarship by SIGPLAN to attend the Programming Languages Mentoring Workshop held at the International Conference on Functional Programming 2016 held in Nara, Japan.