

# Oliver Chang

## Curriculum Vitæ

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### Education

- 2016–present **Ph.D., Computer Science**, *Rice University*, Houston, TX.
- 2012–2016 **B.S., Computer Science & Geography**, *University of Miami*, Coral Gables, FL, 3.9 GPA.  
Magna Cum Laude, Mathematics Minor, Certificate in Geographic Information Systems (GIS)

### Research Experience

- 2015–2016 **Research Experience for Undergraduates**, *A WiFi Localization-based Approach to Analyzing Probe Requests*, Florida International University, Miami, FL.
- Captured WiFi probe requests with a WiFi Pineapple to use with ad hoc localization strategies to passively place users in environments
  - Built upon an openly developed application to create an extensible platform for the research of WiFi localization techniques
- Summer 2015 **Research Experience for Undergraduates**, *Optimization Opportunities for nek5000 on Blue Waters*, Parallel Computing Institute, University of Illinois, Urbana-Champaign, Urbana, IL.
- Profiled nek5000, a Fortran MPI fluid dynamics simulator, to evaluate calculation/communication optimizations
  - Pushed scaling limits of nek software against Blue Waters' hardware to achieve a 5% speedup on PGI compilers
- Spring 2015 **Research Experience for Undergraduates**, *Localization through WiFi Signal Strength with Android*, Florida International University, Miami, FL.
- Worked collaboratively with two other students to create localization tools based on WiFi and LTE alternatives to GPS
  - Created Android app for training & localization via WiFi using modern best practices like Fragment & DataProvider
- Summer 2014 **Summer Internship Program**, *Automating Metadata Compliance Checking*, Physical Oceanography Distributed Active Archive Center, NASA Jet Propulsion Laboratory, Pasadena, CA.
- Consolidated existing metadata checkers for netCDF into a Python framework with verifiable suggestions
  - Lowered cost & difficulty of compliance by creating a RESTful platform over a dependency-heavy local installation

### Professional Experience

- Spring 2016 **Software Engineering Intern**, *REConsole, Inc.*, Ft. Lauderdale, FL.
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- 2014–2015 **Undergraduate Teaching Assistant**, *Computer Science Department, University of Miami*, Coral Gables, FL.
- Reviewed Java code for Intro to Programming with an emphasis on idiomatic, readable code
  - Challenged small labs of Intro to Data Structures & Algorithms students with visualizations emphasizing edge cases
- 2013–2014 **Software Engineering Intern**, *Senzari, Inc.*, Miami, FL.
- Led visualization for a Django dashboard written with Google Charts & CoffeeScript used to track visitor analytics
  - Built one of the first Firefox OS Apps in HTML5/jQuery Mobile to construct graph queries, once rated 4 stars

## Publications and Presentations

- 2015 **GPS & WiFi Choke Point Analysis**, *Poster*, University of Miami (UM) GIS Day.
- 2015 **Analyzing the Scalability of Nek5000**, *Poster*, University of Illinois, Urbana-Champaign (UIUC) Summer Research Poster Session.
- 2014 **Improving Compliance for Earth Science Data Records**, *Poster*, Fall Meeting of American Geophysical Union (AGU).
- 2014 **Automating Metadata Compliance Checking**, *Presentation*, Jet Propulsion Laboratory Research Presentation Day.
- 2014 **Adventures in Cheminformatics**, *Presentation*, UM Computer Science Department.

## Technical Skills

- Basic Fortran, MPI, Ruby, R, API Design, Apache Spark, Docker
- Intermediate JavaScript, C, L<sup>A</sup>T<sub>E</sub>X, SQL, ElasticSearch, ArcGIS
- Advanced Python, Java, Unix, Android SDK

## Honors

- May 2016 Outstanding Computer Science Undergraduate
- March 2016 Nominated for Sheila Dube Outstanding Tutor Award
- Nov 2015 2nd place GIS Day undergraduate poster
- Fall 2015 Supported by REU supplement to NSF grant CNS-1446570
- Summer 2015 Supported by NSF grant CCF-1263145
- Spring 2015 Supported by REU supplement to NSF grant CNS-1406968
- 2012–2016 National Merit Scholar

## Service

- 2015–2016 Vice President for University of Miami chapter of Association for Computing Machinery (ACM)
- 2015 Certified International Tutor by the College Reading & Learning Association (CRLA)
- 2014–2016 Peer Tutor for University of Miami's Camner Academic Resource Center