

# Oliver Chang

## Curriculum Vitæ

727-771-3641  
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### Education

2012–Present **Bachelor of Science, Computer Science & Geography**, *University of Miami*, Coral Gables, FL, 3.8 GPA.  
Mathematics Minor and Certificate in Geographic Information Systems

### Research Experience

2015–Present **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

2014–Present **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 FirefoxOS Apps in HTML5/jQuery Mobile to construct graph queries, once rated 4 stars

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## Publications and Presentations

2015 **GPS & WiFi Choke Point Analysis**, *Poster*, University of Miami GIS Day.

2015 **Analyzing the Scalability of Nek5000**, *Poster*, Summer Research Poster Session.  
Presented in open house to University of Illinois, Urbana-Champaign community

2014 **Improving Compliance for Earth Science Data Records**, *Poster*, Fall Meeting of American Geophysical Union.

2014 **Automating Metadata Compliance Checking**, *Presentation*, Research Presentation Day.  
Final Presentation for Jet Propulsion Laboratory Summer Internship Program

2014 **Adventures in Cheminformatics**, *Presentation*, University of Miami Computer Science Department.  
Final Presentation for fulfillment of Computer Science Project Planning course

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## Technical Skills

Basic Fortran, MPI, Ruby, R, UML Modeling, API Design

Intermediate JavaScript, C,  $\LaTeX$ , Unit Testing, SQL

Advanced Python, Java, Unix, Android Software Development Kit

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## Honors

Nov 2015 Awarded 1 of 3 best undergraduate GIS Day posters

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 National Merit Scholarship

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## Service

2015–Present Vice President for University of Miami (UM) chapter of Association for Computing Machinery

2015 Trained in the Responsible Conduct of Research by the National Center for Professional & Research Ethics

2014–Present Peer Tutor for UM's Camner Academic Resource Center