Oliver Chang

Curriculum Vitæ

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Education

2016–present **Ph.D., Computer Science**, *Rice University*, Houston, TX.
Advisor: Swarat Chaudhuri

2012–2016 **B.S., Computer Science & Geography**, *University of Miami*, Coral Gables, FL.
Magna Cum Laude, Mathematics Minor

Certifications

2016 **Geographic Information Science (GIS) Certificate**, *University of Miami*, Coral Gables, FL.

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.

- Investigated errors in Extract-Transform-Load (ETL) process to resolve parcel parsing errors
- Bundled together ETL scripts with Spark, ElasticSearch, and PostgreSQL components on Google Compute Engine to automate a days worth of manual work

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

2017 **Bunting, R., O.Y. Chang, C. Cowen, R. Hankins, S. Langston, A. Warner, X. Yang, E. R. Louderback, and S. Sen Roy. Spatial Patterns of Larceny and Aggravated Assault in Miami-Dade County, 2007–2015. The Professional Geographer.**, *Journal Publication*, In Press.

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.

Honors

May 2016 Outstanding Computer Science Undergraduate

March 2016 Nominated for Sheila Dube Outstanding Tutor Award

Nov 2015 2nd place GIS Day undergraduate poster

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