Benjamin Chang

ben-chang.com

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PROGRAMMING SKILLS

Languages: Python 2/3, Ruby, JavaScript (ES6), SQL, HTML5, CSS3, SCSS/Sass, LaTeX, Learning C & R

Technologies: pandas, GeoPandas, MatPlotLib, virtualenv, jQuery, Node.js, mongoose, Express, Rails, Active Record, AngularJS, MongoDB, PostgreSQL, MySQL, REST API Development, Authentications

Software: Git, npm/yarn, bower, gulp, Heroku, GitHub, Trello, Dev-tools, CLI Shell, ArcGIS, QGIS, GeoDA

World Language: fluent in Mandarin Chinese

EXPERIENCE

Web Development Immersive   London, UK
General Assembly   *June 2017 - Sept 2017*
- **Project 3**: Built a polling website for group meals with a team of four, built on express, Node.js, MongoDB and AngularJS.
- **Project 4**: In a team of two, wrote a meal planning, recipe editor and grocery list generator website to help people keep track of their personalized diets. The project used AngularJS, Ruby/Ruby on Rails, SCSS and PostgreSQL.

Web Development Intern at NASA World Wind   Mountain View, CA
Ames Research Center   *June 2016 - Sept 2016*
- **Earthquake Signal Precursors Data Analysis**: Created statistical, signal analysis methods and visualizations in Python for an earthquake data analyzation technology demonstrator
- **Web World Wind**: Worked on a team to develop technology demonstrators for the NASA Web World Wind JavaScript library
- **QuakeHunter**: Developed an improved earthquake visualization web app called *Quake Hunter* with the USGS Innovation Center for Earth Science.

UNIVERSITY RESEARCH PROJECTS

Forest Fire Cellular Automata Model and Statistical Analysis   London, UK
King's College London   *April 2017*
- **Celluar Automata Modeling**: Developed a forest fire cellular automata model based on Karafyllidis and Thanailakis's local rule implemented in Java, Python and R
- **Algorithm Development**: Used model to analyze the utility of Mark Finney's minimum travel time (MTT) fire paths as a metric to conduct forest fire suppression through fuel placement optimization
- **Data Analysis**: Statistical analysis carried out in R and Python, conclusively showed Finney's MTT to be an inefficient metric for forest fire suppression.

Modeling Road Effects on Adjacent Wetland Plant Community Structure and Health   London, UK
King's College London   *May 2016 - March 2017*
- **Field Work**: Studied the edge effects of road networks on plant community health and biodiversity in roadside wetland environments, conducted field data collection.
- **Data Collection and Modeling**: Analyzed LiDAR point cloud data and C-LINE modeled NO_2 data through QGIS to create terrain profiles for statistical analysis against field collected plant data.
- **Statistical Analysis**: Statistical analysis carried out in Python, showed road generated NO_2, solar insolation and elevation to be major controllers on plant health, however not biodiversity

EDUCATION

General Assembly   London, UK
Web Development Immersive   *June. 2017 – Sept. 2017*
King's College London, University of London   London, UK
BS Geography: Geocomputation and Spatial Analysis (1st Class Honors)   *Sept. 2014 – July. 2017*

AWARDS

Europa Challenge Award for QuakeHunter

Eagle Scout (Boy Scouts of America)