Benjamin **Lu**

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Education

University of North Carolina at Chapel Hill
B.S. Statistics and Computer Science 2020
GPA · 3.6/4.0

Skills

Programming: Java, C, Python, GO
Analytics: SAS, JMP, IPython, R, Excel, SQL
Web Tools: HTML/CSS/JS, Flask, Bootstrap, jQuery

Employment

UNC Department of Computer Science · COMP 410 Undergraduate TA   Chapel Hill, NC
· Working as a teaching assistant for Comp 410: Data Structures and Analysis.   Aug. 2018 - Present
· Facilitating office hours for a class of 375 students providing guidance in Java programming.
· Grading assignments in data structures such as Linked List, BST, BHEAP, and Dijkstra's Algorithm.

SAS Institute · Data Engineering Intern   Research Triangle, NC
· Presented multiple analyses on SAS Viya defects to recommend product features to VP of R&D.   Summer 2018
· Worked with HTML design team to improve SAS Viya usability by analyzing customer survey data.
· Created data pipelines to aggregate over 1 million defects using SAS code and SAS/Share servers.
· Built dashboards using JMP to allow testing divisions to analyze 9 years of their product defects.

WildKiz.com · Front-End Developer Intern   Philadelphia, PA
· Translated UX wireframes into responsive, interactive features, using HTML/CSS/JavaScript.   Summer 2017
· Designed and created customer landing pages to increase click-through rates by ~25%.

UNC Energy Management · Database Manager & Analyst   Chapel Hill, NC
· Managed database of utilities for 200+ properties throughout the entire UNC campus.   Nov. 2016 - May 2018
· Used Java, Apache POI, and Excel to improve storage time of utility data from days to seconds.
· Modeled energy usage in IPython to recommend renovations leading to ~$3,000 in yearly savings.

Projects

Sentiment Analysis Tool
· Created a web application to conduct sentiment analysis on a provided text using Python's Natural Language Toolkit and Textblob.
· Constructed a RESTful API with Flask allowing English text to be submitted and analyzed for sentiment by a Naive Bayes Classifier.
· Utilized HTML/CSS/JavaScript and Bootstrap to create an intuitive and informative user interface.

UNCW IDEA Lab
· Cleaned and analyzed Trauma Symptom Inventory test data from 1,010 military veterans from Camp Lejeune in Excel.
· Tested correlation between the number of blasts endured in combat and PTSD using the Trauma Symptom Inventory using R.
· Developed a reduced version of the Trauma Symptom Inventory without a significant loss of information using the Item Response Theory.

Activities

Carolina Analytics & Data Science (CADS) · Technical Chair & Project Leader   *Sept. 2017 - Present*
· 2017: Created Metric Matters project; led bi-weekly workshops teaching Python using UNC utility data.
· 2018: Director of all projects conducted by CADS; organizer of CADS yearly data case competition.
· Organizing committee of annual UNC data hackathon (CarolinaDataChallenge.com).

Girls Who Code · Instructor   *Jan. 2018 - Present*
· Working to close the gender gap in technology and change the image of programming.
· Teaching 30 grade school students Python and Web Development weekly to empower them in STEM.

Hack NC · Marketing & Dev Team   *May 2017 - Oct. 2017*
· Planned logistics and marketing strategy for the largest hackathon (600+ participants) in NC.
· Managed social media outlets and contributed to HackNC.com to increase attendance by 15%.

Coursework & Awards

Computer Science · OOP (401) , Data Structures (410) , Computer Organization (411), Models of Languages (455), Databases (521)

Statistics · Design of Experiements & ANOVA (UNCW), Introduction to Probability (435) , Statistical Methods (455), Optimization (415)

Math · Combinatorics (UNCW), Multivariable Calculus (233) , Discrete (381), Differential Equations (383), Linear Algebra (547)

Awards · Dean's List every semester, Army National Scholar Athlete Award, Eagle Scout