How were you first introduced to Computer Science? How have you continued to develop your technical skills and seek additional exposure to the field?

I discovered computer science in the back row of a middle school typing class. After finishing the assigned type-races, I would spend the rest of each class playing around with Batch. I wrote my scripts in Notepad, the only IDE available on the school computers. My first project was a self-executing Batch file that would quickly infect any classmate's computer screen. Another project was a neat calculator that took too long to implement. My magnum opus was a limited but functional Pokémon level with manually drawn graphics.

In high school, I completed electives on Analysis of Algorithms, Computer Graphics, and Artificial Intelligence, among others. Outside of class, I was a captain in the computer team, where each week we introduced a different concept from computer science. I worked with the team to host mBIT, a programming competition sponsored by our school with hundreds of participants. Beyond competitive programming, I explored my personal interests in data visualization and natural language processing by finding and applying to research teams. At Berkeley, I continue to challenge myself with coursework and explore extra-curricular opportunities.

What is your strongest programming language? How much experience do you have using the language?

I am most comfortable programming in Python. As an intern at the National Institutes of Standards and Technology, I developed Python-based natural language processing tools. I designed rule-based scripts to preprocess data and extract subject-object-predicate tuplets from sentences. I used the NLTK and Gensim libraries to conduct LDA topic modeling, examining whether the lab's novel pre-processing step could improve the coherence and complexity of the results. I documented my work Jupyter notebooks for others to reproduce.

I also was a research assistant at the National Cancer Institute. I wrote Python scripts to scrape and reformat trial data from a NCI website. I used Pandas to split and reformat the data points for more efficient user queries.

Currently, as a consultant, I draw on both of these experiences to conduct sentiment analysis on scraped social media posts and user reviews.

Tell us about your background and experiences and how they make you unique.

My background in debate and consulting complements my technical experience.

As an avid debater, I constantly explore policy solutions to global challenges. Not only does debate attune me to current events, but it provides me tools to analyze and critique proposals, which is useful for problem-solving. Moreover, while debate has taught me how to win arguments, the greater lesson I've taken is the importance of clear communication and finding points of agreement, lessons which make me an effective team member.

Meanwhile, my experience in strategy consulting enables me to capitalize on unconventional solutions. Working in both qualitative and quantitative projects has instilled in me an appreciation

for multimedia approaches. Moreover, because consulting projects have strict project goals, I've learned how to to innovate within defined boundaries.

List the technical courses you will be taking next semester, and please note which programming language(s) will be used, if applicable.

Data C100 - Principles and Techniques of Data Science - Python-based course exploring Pandas

CompSci 170 - Efficient Algorithms and Intractable Problems - C/C++-based algorithms course

Econ 101A - Microeconomic Theory

UGBA 10 - Principles of Business

List any clubs and/or organizations that you participate in.

Voyager Consulting - student-run strategy consulting club servicing growth stage and Fortune 500 companies

Berkeley Economic Review - write monthly articles informed by quantitative-research

Computer Science Mentors - mentor undergraduate students introductory CS classes at Berkeley

Debate Society at Berkeley - competitor in APDA-style debate

Peter Zhang

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Education

University of California, Berkeley   **Berkeley, CA**
Computer Science and Economics B.A.; 4.00 Cummulative GPA   Class of 2024
  – **Coursework** Data Structures, Discrete Math and Probability, Functional Programming, Linear Algebra, Statistics
  – **Activities** Voyager Consulting, Debate Society at Berkeley, Computer Science Mentors, Berkeley Economic Review

Experience

The Bronx High School of Science   **Bronx, NY**
Assistant Debate Coach   Aug 2020–Present
  – Lead two practices each week for a team of 30+ Lincoln-Douglas debaters and drill with students one-on-one
  – Judge and coach at two tournaments each month, providing strategic advice and feedback to competitors

Premier Debate America   **Los Angeles, CA**
Product Manager   Dec 2018–Present
  – Lead bi-monthly publication of 200+ pages of topic research used freely by thousands of debaters nationwide
  – Design and maintain premierdebate.com using Wordpress and CSS/Javascript with 67,000 visitors in 2019

National Institute of Standards and Technology   **Gaithersburg, MD**
Applied Economics Research Intern   May 2020–Sep 2020
  – Annotated 50+ papers on resilience planning to find trends in how co-benefits are treated in benefit-cost analysis
  – Wrote case study of wildfire-resistant retrofits by estimating and comparing 10 sources of costs/benefits in Excel
  – Published user manual for Edge$, an online decision-making software for community resilience projects
NLP Research Intern   Jun 2019–Aug 2019
  – Wrote Python scripts to preprocess corpora and construct subject-predicate-object tuples with NLTK/Gensim
  – Improved Latent Dirichlet Allocation topic modeling using root-and-rule preprocessing in Jupyter Notebook trials

National Cancer Institute   **Rockville, MD**
Data Visualization Research Assistant   Jul 2019–Apr 2020
  – Scraped and reformatted 1 billion+ gene expression datapoints from drug trials to expedite user queries
  – Co-authored R Shiny app for dynamic plotting/analysis and created an Electron-based MacOS deployable

Projects

WikiGrab Python web scraper and repository of disclosed debate cases and tournament entries   Jul 2020
VerbatimReader VBA macro for reformatting debate documents to a screen-reader accessible format   Nov 2019
World4 Global carrying capacity model based on regression analysis of environmental indicators   Apr 2019
Eye Coach Mobile app with augmented reality to help people with autism train eye contact   Jan 2019
Coaster Ranker Neural network that predicts roller coaster ratings from height, speed, location, etc. Nov 2018

Skills

Languages Python/Jupyter, R w/ Shiny, Java, PHP/SQL, HTML/CSS/Javascript, MATLAB
Tools Git/Terminal, VS Code/IntelliJ/Android Studio, WordPress, Electron

Awards

UC Berkeley Leadership Award; Recipient   Jul 2020
National Speech and Debate Tournament; 6th Speaker   Jun 2020
USA Computing Olympiad; Platinum Division   Apr 2020
American Regions Mathematics League; 8th Place   Jun 2019
International Mathematics Modeling Challenge; Finalist   Apr 2019
Hack Pennsylvania; Best In Show   Jan 2019