

Shuai Hao

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EDUCATION

Columbia University

Dual Degree M.S. in Computer Science and M.S. in Journalism

New York, NY

08/01/2018 – 05/20/2020

- Coursework: Computational Journalism, Data Visualization, Database, Natural Language Processing and User Interface Design

Communication University of China

B.A. in Journalism, Minor: Computer Science (Ranked in top 5% of the class)

Beijing, CN

09/01/2014 – 07/01/2018

- Coursework: Data Structure, Web Design & Improvement, Probability & Statistics and Multimedia Reporting & Editing

TECHNICAL SKILLS

- **Programming:** C, C++, Python, R, Ruby, SQL, PHP, HTML, CSS (Bootstrap), JavaScript (D3, jQuery, Node, React, Svelte)
- **Data Analysis:** Gephi, Google Colaboratory, KNIME, Neo4j, Observable, OpenRefine, QGIS, SPSS, Stata, Tableau
- **Digital:** Adobe Suite, Bloomberg Terminal, Datawrapper, Figma, Git, Infogram, Linux, Mapbox, Microsoft Suite, WordPress

PROFESSIONAL EXPERIENCE

Moody's Investors Service

Associate Software Developer

New York, NY

02/07/2020 – Now

- Developed four interactive data dashboards allowing users to upload spreadsheets and generate customized SVG/PNG images
- Built a web application with a zoomable collapsible tree, a sidebar and search/filter functions to show all research themes
- Set up a chart generator with nine chart types in D3.js to automate and speed up the creation of data visualizations
- Created a mobile-friendly scrollable data story using ai2html and Svelte.js after cleaning and reorganizing credit research data

CoinDesk

Data Visualization Analyst

New York, NY

06/08/2020 – 02/04/2022

- Scraped, wrangled and parsed financial data on Google Colab for CoinDesk Index products and [quarterly reviews](#)
- Built [17 automated chart templates](#) in D3.js to visualize price, market capitalization, volatility and correlations of crypto and macro assets. Journalists can use templates to generate custom charts, embed them in the CMS and download data for analysis
- Created over 400 charts using Tableau, Datawrapper and Photoshop for daily news stories and [social media posts](#)
- Set up [an interactive dashboard](#) using SQL to visualize how Ethereum's London upgrade improved the blockchain

USA TODAY Network

Interactive Graphics Intern

McLean, VA

06/18/2019 – 08/23/2019

- Developed five visual data projects on politics, education, history and health. Work included analyzing and cleaning data in Pandas, extracting pixel values of images in PIL and making D3 animations. Created interactive maps, bubble charts and SVG transformations for a node.js project about [the history of slavery](#) in the U.S., which received more than 300,000 pageviews
- Improved and updated a timeline template by reorganizing elements on the web page in Angular.js for a story about [how women fought for suffrage](#). Used Adobe Illustrator and Photoshop to design and polish [a map about marijuana legislation](#)

PROJECTS

Data Visualization | Hot Weather in Chinese Cities

Oct. - Nov 2022

- Created [a notebook on Observable](#) using the data from NOAA to show the temperature increase in most Chinese cities

News Application & Data Visualization | Data Crunch

Feb. - May 2020

- Built [a SaaS platform](#) in Ruby on Rails following the test-driven development process. The platform can help journalists find patterns, outliers and missing values in the dataset, and visualize the distribution of each feature using bar charts or histograms

Data Visualization | Evolution of Terrorism

Apr. - May 2019

- Created [an interactive website](#) in D3.js and scrollama.js to explore why and how terrorism evolved over the years by analyzing 180,000 rows of data about weapons, victims and perpetrators of attacks in last 50 years using Pandas. Designed interactive maps and line charts to stress the increase of deadly terrorism attacks

Database & Web Development | NYC Parks Database

Feb. - Apr. 2019

- Developed [a database in PostgreSQL](#) from scratch and a user interface with add, edit, delete and search functions using SQLAlchemy, Flask and jQuery on Google Cloud Platform. Users could explore all monuments, eateries, hiking trails and crimes around the public parks and get contact information of park supervisors in New York City