Kevin Mao

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EDUCATION AND SKILLS

Columbia University School of Engineering   **Expected 2021**
- Bachelor of Science, Computer Science Major on the Dean's List

Technical Skills
- Proficient in Python, Java, JavaScript, Go, SQL, MongoDB, Full-stack Web Development

WORK EXPERIENCE

Tulip: *Software Engineering Intern*   **Summer 2019**
- Working on the Platform team at Tulip to improve their web-based tool for managing factories
- Enhancing the usability of Tables, a popular feature that allows customers to manage databases without any code by building new features, such as deleting a row and real-time data syncing across services, using full-stack technologies that range from the backend Meteor server to the frontend React and Redux
- Learning best practice code techniques for working on industrial-sized code bases, such as unit testing

Columbia Data Science Institute - Lab for Neural Computing: *Research Intern*   **Spring 2018 - Present**
- Improved machine learning models, including Convolutional Neural Networks and Hidden Markov Models, that were designed by the lab to process neural data using Tensorflow, Keras, and Scikit-Learn
- Conducting data signal processing steps, such as PCA and FFT, optimized model parameters using early stopping and grid search, and ran experiments on a Google Cloud Platform virtual machine
- Achieved 90% and higher model classification accuracy on labeled electroencephalography data sets

NYU Langone Medical Center - Lin Lab: *Research Intern*   **Fall 2015 – Spring 2017**
- Discovered a statistically significant correlation between the activation of specific regions in the hypothalamus with aggressive behaviors in mice by conducting behavioral experiments using optogenetics and fiber photometry
- Conducted video annotation and data analysis using MATLAB
- Submitted paper and presented project at Regeneron Student Talent Search and won the Research Report Badge

PROJECTS

Lion Base: *Freelance Product Developer*   **Spring 2019 - present**
- Helping different companies overcome challenges by building data-driven, customer-oriented Django applications
- Developed a dashboard with Bokeh data visualizations, a search feature, and column sorting, to allow a music licensing company to better manage their database of millions of songs and detect anomalies in payments

Cloud Fitness: *Full Stack Developer*   **Summer 2018 – Fall 2019**
- Helped users search for guest gym passes with this Flask web app, deployed to Heroku (www.cloudfitness.io)
- Designed a dashboard that listed pass links and marked gym locations, data that was collected using web scraping, Microsoft Azure and Google APIs, and was stored them in a MongoDB collection with 100+ gyms

Paean Health: *Researcher*   **Fall 2017 - Spring 2018**
- Tackled the opioid crisis by researching and testing if activated carbon could chemically deactivate medication
- Designed and pitched the X-pouch, a small packet filled with activated carbon that patients could use to deactivate unwanted medication by inserting it into pill bottles, adding water, and shaking to release the carbon
- Presented in a team of 4 and won the Columbia Engineering Design Challenge and $2500 in funding

LEADERSHIP EXPERIENCE

Columbia Biomedical Engineering Society: *Co-Coordinator of HealthHacks*   **Fall 2017 - Present**
- Invited 100+ student developers across the east coast to collaborate on projects that tackled important health issues, such as the opioid crisis and kidney cancer diagnosis, by organizing Columbia's first health hackathon
- Collaborated with a team of 5 by delegating tasks, such as grant applications and marketing to sponsors
- Taught a workshop on web development, provided technical assistance to participants and distributed over $1000 worth of prizes to winners