

NICOLE LIN

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EDUCATION

Columbia University in the City of New York

B.S. Computer Science, Minors: Applied Math, Entrepreneurship and Innovation

GPA: 4.11

New York City, NY

May 2024

Relevant Coursework: Data Structures in Java, Advanced Programming, Fundamentals of Computer Systems, Python for Engineers, Discrete Math, Intro to Probability and Statistics (Masters Course), Linear Algebra, Multivariable Calculus, (AI), (Intro to Databases)

TECHNICAL SKILLS

- **Programming Languages:** Python, Java, R, HTML/CSS, JavaScript, C, SQL, MATLAB
- **Technologies:** Unix-Like OS, MySQL, React, Django, Flask, RESTful, Git, Jupyter, CoNIFER, Docker, EthoVision (Image Processing), Tableau, Bash Script

PROJECTS

Online Bookstore at CU

05/2021 – Present | New York, NY

- Implement an online bookstore using Flask, HTML backed by MySQL database for Columbia students to sell their used and new books/textbooks
- Build a book content search engine based on TF-IDF algorithm

Web Server Sockets Programming

03/2021 – 04/2021 | New York, NY

- Implemented a web server using C language for HTTP communication and website serving
- Achieved a TCP connection to database lookup server when the web server starts up and keep using the same connection
- Dockerized the service application and successfully deployed it via Kubernetes
- Applied basic metrics calculation like latency, package loss rate, etc. toward the implementation

Wine Classifier

12/2020 | New York, NY

- Implemented multiple ML classifiers using linear classifier and SVMs to predict whether a Portuguese (Vinho Verde) wine is red or white from the chemical measurements and compared their performances
- Applied feature engineering via various techniques like normalization, bucketizing, etc., which increased the validation accuracy by 14%
- Analyzed the feature importance by looking at feature weights; sorted out 3 best features and some irrelevant features
- Enforced the nearest centroid classifier and a technique called cross-validation to get a more reliable measure of the model's performance

RESEARCH & EXPERIENCE

Columbia University Medical Center | Data Science Intern

09/2020 – Present | New York, NY

- Head the development of Python/R (Bioconductor package) statistical scripts to identify and analyze genetic factors involved in various forms of hereditary diseases, including neurodevelopmental disorders, hearing loss, and skeletal disorders
- Consolidate various technologies, including Jupyter, Galaxy, and Conifer, to track molecular causes of hereditary diseases by integrating genomics, transcriptomics, and epigenomics
- Develop database objects and materialized views using Docker and Git

My Influency | Full Stack Engineering Intern

02/2021 – 09/2021 | Atlanta, GA

- Utilized a suite of Tech Stacks including Python/Django/SQL (Google Cloud Platform, PostgreSQL, MySQL) and JavaScript/ReactJS/HTML/CSS for professional web development
- Launched a robust MVP and Beta 1 prototype including a notifications hub for clients and profile settings for Advertisers and Influencers
- Streamlined UX testing, programming, development and database administration
- Figma designed and mobile-optimized main pages that increased visitor engagement to over 1000 monthly users
- Defined front-end frameworks, UX/UI style guides, and user flows that drove efficiency and consistency by 32%
- Front-lined the switching of web frameworks from Django to ReactJS

Columbia University, Duvall Lab | Undergraduate Research Assistant

09/2017 – Present | New York, NY

- Revitalized Mozzie Box Python code to image mosquitos and transitioned the entire process to MATLAB
- Facilitated the assay of mosquito locomotor activity through image processing (EthoVision)

Poshmark | Small Business Owner

01/2017 – Present | Atlanta, GA

- Attained Top 10% Seller Award and Poshmark Ambassador distinction
- Formulated researching, planning, and writing business plans, boosting sales by 27% and profit by 40%
- Expedited payment processing and recording financial transactions using my own Profit Calculator app
- Improved customer satisfaction (33% increase in positive customer feedback) through follow-ups concerning product delivery and quality issues

HONORS & INVOLVEMENT

- Society of Women Engineers Executive Board
- University Ambassador (Columbia Welcome Committee and Inclusion and Belonging Committee)
- Columbia Science Review Editorial Board
- Other: Columbia Build Lab, Columbia Almadworks Fellowship, Red Cross, Women in Computer Science
- Dean's List (all semesters)
- Data for Good Scholar (September 2020 – Present)
- Club Swimming (Nationals Qualifier, MVP, Scholar Athlete 4x)
- National Scholastic Art and Writing Awards Gold 2x
- Displayed Student Artist of Atlanta Superbowl 2019 and Featured Artist in multiple art shows