

# Robert (Chen) Bao

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## Education

### University of Virginia, School of Engineering and Applied Science

Charlottesville, VA

B.S. Computer Science, GPA: 3.91/4.0

May 2023

Relevant Courses: Data Structures, Algorithms, Software Testing, Engineering User Interfaces

## Work Experience

### University of Virginia, Biocomplexity Institute

Charlottesville, VA

Research Assistant

Sep 2021 – Present

- Worked to scale a novel method to block contagions using Dominant Sets
- Created and visualized simulations for 106,920 possible outbreak scenarios with Python, and Bash
- Implemented Python programs to gauge similarities between sets of 8000+ graph nodes in 750 ms
- Developed skills in Python, Data structures, Matplotlib, and Unix shell (Bash)

### University of Virginia, Biocomplexity Institute

Charlottesville, VA

Full-stack Web Developer

Dec 2020 – Nov 2021

- Collaborated with a team of 3 to develop [CRISP](#), a web app enabling people to share resources after hurricanes, enhancing community resilience
- Developed the full stack, working on frontend UI components and Python backend
- Developed skills in JavaScript, Python, React, Tailwind.css, and project management

### University of Virginia, Biocomplexity Institute

Remote

Research Engineering Intern

June 2021 – Aug 2021

- Researched a novel method to block contagions using Dominant Sets, analyzing 7 networks using Python
- Presented the project to an audience of 50 staff members in a poster session
- Developed skills in Python, Unix shell (Bash), data analysis, and presentation skills

## Project Experience

### Creator, The Pedometer Algorithm

Mar 2022

- Led a team of 2 to design and implement an algorithm to count steps from smartphones data
- Designed and implemented a step-counting program in Python, processing 2000-line data files in 100 ms
- Built with Python, Pandas, Numpy, and Matplotlib

### Creator, Code Warehouse

Jan 2022

- Developed [a web app](#) for programmers/scientists to manage and share code snippets
- Implemented a RESTful API backend using Django, connected to a PostgreSQL relational database
- Built with Python, Django, JavaScript, React, HTML/CSS, and PostgreSQL

### Creator, Lucid Allergy Forecast

Dec 2021

- Designed and engineered [a web app](#) for providing and visualizing potential allergy risks in a given city
- Retrieved and visualized the 5-day allergen level forecast data using Python and JavaScript
- Built with Python, Django, JavaScript, React, and HTML/CSS

## Technical Skills

Proficient: Python, JavaScript, HTML/CSS, SQL, React

Familiar: Java, C++