

Ruichen Zhang

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EDUCATION

University of Pennsylvania, School of Engineering and Applied Science
Masters in Computer Science (MCIT)

Philadelphia, PA
Sept. 2021 - May 2023

Beijing University of Chemical Technology, College of Science
Bachelor of Science in Chemistry

Beijing, China
Sept. 2016 - Jun. 2020

- Cumulative GPA: 3.9/4.0, Ranking: 2/332, National Scholarship (top 0.2%, twice)
- Relevant Coursework: Computer Science Fundamentals, C Programming, Python Programming, AI Computing Systems

SKILLS

- **Courses/Skills:** Programming Languages, OOD, Data Structures and Algorithms, Web Development
- **Languages:** Java, Python, HTML/CSS/JavaScript, C, MATLAB
- **Tools:** jQuery, Bootstrap, Node.js, Express, MongoDB, Git/GitHub

PROFESSIONAL EXPERIENCE

Boding Information Technology Co. Ltd.
Software Engineer Intern

Nanjing, China
May 2020 - Jun. 2020

- Assisted senior engineers in the back-end development of a youth sports training platform that manages information of 300+ athletes at Nanjing Sport Institute using the Spring Framework
- Provided over 40 hours' onsite IT support in software installation and configuration, achieving 100% client satisfaction
- Responsible for other tasks such as testing internal software and maintaining technical documentation

State Key Laboratory of Organic-Inorganic Composites
Research Assistant

Beijing, China
Apr. 2019 - May 2020

- Designed an efficient catalytic route to improve yield of unsaturated polymers in industrial reactions by 12.39%
- **Publication:** Yao N, Zhang Y, **Zhang R**, Zhang L, Yue D, One-step Fabrication of HNBR/MIL-100 Composites via Selective Hydrogenation of Acrylonitrile-butadiene Rubber with a Catalyst Derived from MIL-100(Fe), *J. Mater. Sci.*, 2021, 56, 326-336. DOI: 10.1007/s10853-020-05227-9

PROJECTS

Yelp Camp

Personal Project

- Developed a full-stack web application that allows users to create, review, update and delete campground posts and comments
- **Front end:** Designed an interactive web page using HTML, CSS, JavaScript, jQuery and Bootstrap
- **Back end:** Implemented RESTful APIs to deal with HTTP requests and responses using Node.js with Express, and stored data with NoSQL database MongoDB
- Implemented user authentication and authorization using Passport.js

Covid Hero Minigame

Class Project

- Created a 2D action game using the Pygame library, where the player dodges viruses to stay alive and collects antibodies to accelerate vaccine development
- Designed game features such as mutated viruses that deal more damage, collectable items to gain special abilities, and functions including difficulty levels and leaderboard

Opioids Crisis Pattern Prediction Model

Mathematical Contest in Modeling

- Developed a neural network model to predict opioid overdose epidemic patterns in the United States using TensorFlow deep learning framework, with an accuracy of 98.99%
- Preprocessed opioid overdose records and geographical data of 5 target U.S. states using SQLite and Python
- Visualized epidemic patterns over 8 years using Origin software tools