

## Yichen Huang

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### EDUCATION

<b>Duke University</b>	<b>08/2022 – 05/2024 (Expected)</b>
MEng Electrical and Computer Engineering (Study Track: Software Development)	
<b>University of Nottingham</b>	<b>09/2018 - 06/2022</b>
B.E Electrical and Electronic Engineering	

### SKILLS

- Programming Languages: JavaScript, TypeScript, Python, Java, C/C++, SQL, HTML/CSS
- Frameworks: Node.js, Spring Boot, Spring Cloud, Angular, React.js, Django, Bootstrap
- Database and ORM: PostgreSQL, MySQL, Redis, Hibernate, Sequelize
- Testing Tools: Selenium, Jasmine, Mocha, React DevTools, React Profiler, Junit and Mockito, Postman
- Other Tools: Git, AWS EC2, Docker, CI/CD, Elasticsearch, Sentinel, Geohash, Multithreading

### PROFESSIONAL EXPERIENCE

<b>Software Engineer Intern</b>	<b>ScriptChain Health</b>	<b>05/2023–08/2023</b>
<ul style="list-style-type: none"><li>• Developed a web app featuring a "Provider Portal" enabling primary care physicians to access patient heart disease data and AI-driven predictions for enhanced diagnostic decision-making. Additionally, integrated a "Patient Portal" for seamless data sharing with patients.</li><li>• Designed dynamic and multi-browser compatible pages using <b>Angular (HTML, CSS and TypeScript)</b>; Created reusable components such as reusable headers, navigation bar and footers to increase maintainability and efficiency.</li><li>• Built patient record management <b>RESTful APIs with Node.js (JavaScript)</b>, served user requests with <b>microservices</b>, allowing users to efficiently manage patient data and send text/email reminders via frontend.</li><li>• Processing <b>CRUD</b> operation with <b>Sequelize</b> ORM; successfully migrated data from <b>MySQL</b> to <b>Redis</b>, resulting in considerable improvements in response time.</li><li>• Migrated search service from <b>MySQL</b> to <b>Elasticsearch</b>, significantly improved patients' records searching speed by <b>50%</b> compared with fuzzy matching.</li><li>• Designed and managed <b>CI/CD</b> pipelines, deployed to <b>AWS EC2</b> with multiple nodes.</li><li>• Conducted integration testing with <b>Selenium</b> on frontend and <b>Postman</b> for API; employed <b>Jasmine</b> for unit testing.</li></ul>		
<b>Software Engineer Intern</b>	<b>Duke University</b>	<b>05/2023-08/2023</b>
<ul style="list-style-type: none"><li>• Created a <b>Python</b> auto-grader to assess classifier performance in a machine-learning course by analyzing curves.</li></ul>		

### PROJECTS

<b>Mini Amazon System</b>	<b>04/2023-05/2023</b>
<ul style="list-style-type: none"><li>• Developed a <b>full-stack</b> web application modeling an Amazon system with a warehouse and delivery system.</li><li>• Implemented the web frontend using <b>React (JavaScript)</b> and rendered user-friendly UI with <b>CSS, HTML, and Bootstrap</b>, implemented unit test with <b>Mocha</b> framework to enhance code quality of Components.</li><li>• Utilized React development tools like <b>React DevTools</b> and <b>React Profiler</b>, proficient in using these tools for debugging, performance optimization, and gaining insights into component behavior.</li><li>• Established communication model with <b>Java</b>, communicated with UPS delivery service and warehouse with <b>Google Protocol Buffer</b> and stored data in <b>PostgreSQL</b> with help of <b>Hibernate ORM</b>.</li><li>• Designed a set of RESTful APIs with <b>Springboot</b>, integrated Springboot with communication model; wrote testable and secure applications, kept <b>80%</b> code coverage with unit test via <b>Junit</b> and <b>Mockito</b>.</li><li>• Deployed <b>Spring Cloud Consul</b>, set up Consul Clusters nodes to support service discovery and server register between different server modules.</li><li>• Deployed to <b>AWS EC2</b> with multiple nodes, integrated orderService with Consul, and make the app highly available for public access.</li><li>• Used <b>GitHub</b> and <b>Maven</b> for version control and project dependency control, resolved git conflict during collaborative code reviews.</li><li>• Set up flow control with <b>Sentinel</b> to protect backend system from overload traffic.</li></ul>	
<b>Ride Sharing Service Web-APP</b>	<b>01/2023-02/2023</b>
<ul style="list-style-type: none"><li>• Built a full-stack web application modeling an Uber-like system using <b>Django</b> and <b>PostgreSQL</b>.</li><li>• Created a matched service model to facilitate rider-customer pairing, by identifying the nearest available rider using <b>Geohash</b>.</li><li>• Implemented user authentication and order status management.</li><li>• Deployed the application to multiple nodes using <b>Docker</b> and <b>AWS ECS</b>.</li></ul>	
<b>Mini Multithread Stock Exchange Matching Engine</b>	<b>03/2023-04/2023</b>
<ul style="list-style-type: none"><li>• Created a <b>C++</b> server to match orders and track accounts for a simulated stock/commodities market.</li><li>• Stored data with <b>PostgreSQL (SQL)</b>, considered <b>database concurrency</b> by implementing <b>multithreading</b>.</li></ul>	