


# JEFFERY XIE

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## EDUCATION

UNIVERSITY OF SASKATCHEWAN

Bachelor of Science – Computer Science Major

SEP 2018 – APR 2022

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## WORK EXPERIENCE

VRETTA | SOFTWARE DEVELOPER

SEP 2022 – APR 2023

Enhanced the e-learning experience for students across Canada through a web application that runs standardized provincial tests, supporting thousands of daily users with varying devices, browsers, and learning accommodations.

- Developed Python, SQL, and shell scripts to automatically create and insert thousands of student and teacher accounts into the database every semester, significantly reducing the data processing time by 32%.
- Implemented real-time features including chat systems, user presence detection, and online/offline indicators, scaling to hundreds of concurrent users utilizing AWS Lambda, DynamoDB, and WebSockets.
- Conducted load testing on critical application components with K6 and automated tests with Selenium and Browser Stack, optimizing regression testing efficiency by saving 2-3 hours of manual effort per cycle.

*Technologies Used: Angular, TypeScript, Node.js, Express, MySQL, AWS, Selenium, SCSS, and Python*

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## PROJECTS

POKÉMON GAME | [CODE](#)  | [DEMO](#) 

JUN 2022 – SEP 2022

A Pokémon-themed clicker game that was inspired by games like Cookie Clicker and Clicker Heroes.

- Used Next.js Images to optimize images for all screen sizes, reducing the initial load time for the home page by up to 8 seconds and network payloads by approximately 22MB.
- Achieved a score of 85-100% for performance, accessibility, best practices, and SEO via [Google Lighthouse](#), and set up continuous deployment (CD) for the application using GitHub Actions.
- Created several [automated tests using Cypress](#) to automatically test major components of the application.

*Technologies Used: Firebase, React.js, Next.js, TypeScript, Redux, SCSS, Cypress, Framer Motion, and MaterialUI*

POKÉDEX | [CODE](#)  | [DEMO](#) 

FEB 2021 – FEB 2022

A Pokédex that displays information about over 1000 Pokémon in a responsive and modern UI.

- Developed a loading screen with 300+ Pokémon facts scraped from the Internet using Python, improving the user experience during long loading times.
- Designed a unique interface with 10+ colour themes that adapt to the selected Pokémon.
- Utilized lazy-loading images and pagination to improve performance on pages with 200+ images.

*Technologies Used: MongoDB, Express, React.js, Node.js, Redux, MaterialUI, Python, Netlify, and Heroku*

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## SKILLS AND TECHNOLOGIES

- **Languages:** JavaScript (ES6), HTML5, CSS3, Python, Java, C#
- **Libraries & Frameworks:** React.js, Next.js, Angular, TypeScript, Redux, SCSS, MaterialUI, Tailwind
- **Server & Cloud:** Google Firebase, Netlify, Heroku, MongoDB, DynamoDB, MySQL, Express, Node.js
- **Other:** GitHub, GitLab, Selenium, Cypress, CI/CD, Docker, Agile, AWS, Figma