Nathan Cheung

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EDUCATION

Ryerson University
Bachelor of Engineering in Software Engineering   Exp. Apr 2022
Dean's List: 2018 - 2020   GPA: **3.82**

PROJECTS

Youtube Video Synchronizer   https://vidshare.ca/
– Developed a full-stack web application to watch YouTube videos with others synchronously
– Synchronized user activity using **websockets** and **Express.js**, serving around 2000 monthly users
– Designed front-end UI using **HTML, CSS, JavaScript,** and **Bootstrap**

Handwritten Digits Classifier   http://tiny.cc/izm5tz
– Created and trained a **neural network** in **Keras** to classify handwritten digits
– Designed a full-stack web application to visualize neuron layer with **Node.js, React,** and **Express.js**

Automated Classifieds Bot   https://git.io/JkKfz
– Created a **Python** bot to identify high-margin listings and notify user via email
– Utilized **web scraping** with **Beautiful Soup** and **Pandas** to scrape listings and store data dynamically
– Automated and deployed bot using an **AWS EC2** instance and email notifications with the **smtp** library

Password Manager   https://git.io/JkKk6
– Created a **Python** application to store and retrieve passwords securely
– Ensured security using **bcrypt**'s Blowfish hashing algorithm with a randomly generated salt
– Encrypted passwords with **AES-128-CBC encryption** and **PBKDF2's HMAC-SHA-256** key hashing

Sudoku Solver   https://git.io/JkKJO
– Created a user-friendly application that solve Sudoku puzzles
– Implemented a **backtracking** algorithm with visualization using **pygame**

EXPERIENCE

Software Engineer Intern
IBM Canada   *May 2020 - Present*
– Developed a full-stack web application using **TypeScript, React/Redux,** and **Express.js**
– Constructed an end-to-end workflow testing suite to improve error catching by 70%
– Built a database monitoring bot to re-route misplaced support tickets, increasing NPS score by 30%
– Automated an internal data analytics tool to visualize support satisfaction metrics in real-time
– Deployed all applications in **Docker Containers** using **CI/CD pipelines** with **Travis CI**

Customer Experience Associate
TD Canada Trust   *Aug 2019 - Apr 2020*
– Granted the additional responsibility to handle secure-desk and bank vault combinations
– Complied with branch control procedures to prevent identity theft, money laundering, and fraud

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TECHNICAL SKILLS

Languages: Python, JavaScript, Java, HTML, CSS, C, SQL
Tools/Technologies: Git, Node.js, TypeScript, Docker, AWS, Express.js, Travis CI, JIRA, MongoDB, Keras