

## EXPERIENCE

### DRW Trading – Software Developer Intern

Montreal, QC

*Event-driven Trading Division in a High-frequency Trading Firm*

*May. 2021 – Present*

- Developed a Computer Vision solution to compare web snapshots and extract meaningful differences, using OpenCV, Scikit-image, and Tesseract OCR.
- Implemented an efficient mechanism to crawl, poll, and take screenshots of 800+ URLs daily, then store in a remote Ubuntu VM, using Python with Selenium and Docker.
- Built an API service to report HTTP failures and abnormal responses from URLs, using Python with FastAPI.

### Concordia University – Undergraduate Research Assistant

Montreal, QC

*Concordia Data System Lab (CoDS) - under the supervision of Dr. Essam Mansour*

*May. 2021 – Present*

- Integrate SHAP to a variety of Machine Learning models to explain how different inputs affect the end results.
- Utilize Python with XGBoost to train different classifiers using gradient boosting technique.
- Build an interface to demo the Knowledge Graph system using React.js and FastAPI.

### HackConcordia – Director of Technology / Software Developer

Montreal, QC

*Technology Division*

*May. 2021 – Present*

- Plan and prepare the technical infrastructure for ConUHacks 2022 - Montreal's biggest annual hackathon.
- Deployed hackconcordia.io website (node.js and express.js web app) using Docker and Nginx on Digital Ocean.

### Ericsson – Open-source Software Developer Intern

Montreal, QC

*Eclipse-Theia Team (theia-ide.org): Open-source Cloud & Desktop IDE framework*

*Sept. 2020 – April. 2021*

- Authored and developed @theia/external-terminal (1000+ weekly downloads) – a Theia package that contributes the ability to interact with native terminals, using TypeScript, Node.js, React.js and Electron.
- Reduced average test wait time by nearly 90% in theia-ide/theia-apps (a set of 15 Docker images) by integrating the CI-CD workflow to GitHub Actions.
- Authored and maintained Selene IDE – a cross-platform IDE based on Theia for illustration purpose.
- Carefully reviewed and tested code from the open-source community to close/merge pull requests.

## PROJECTS

**Personal Website:** ducnguyen.dev (for additional information and projects)

**CleverICE - 1st Place of Intact Challenge in ToHacks 2021 (out of 41 submissions) (DukeNgn/CleverICE)**

Efficiently built back-end service, integrated GPT-3 Open-AI, and created customer database on CockroachDB for CleverICE - a web app that speeds up the insurance claim process for customers.

Utilized: Python, Flask, Open-AI, Cockroach SQL, CockroachDB

**COVID-19 Detector - HackThe6ix 2020 (DukeNgn/covid19-detector)**

Led a team to build a web app that determines the probability of a person contracting with COVID-19 based on Chest CT Scan images. A Machine Learning model was trained on Azure platform with Python and Flask to perform the tasks.

Utilized: Python, Flask, HTML/CSS, JavaScript, Bootstrap, Azure Custom Vision, Azure Deployment

## EDUCATION

### Concordia University

Montreal, QC

*Bachelor of Computer Science, Software Systems CO-OP*

*Sept. 2017 – Present*

## VOLUNTEER & SOCIETY

**Concordia Institute for Co-operative Education:** CO-OP Mentor

**Unmanned Aerial Vehicles (UAV) Concordia:** Software Team Member

## SKILLS

**Programming:** TypeScript, JavaScript, Java, Python, R, C++

**Tools:** Git, Docker, Node.js, Electron, React.js, Flask, MySQL, Jekyll

**Platforms:** GitHub, GitLab, TravisCI, GitHub Actions, Microsoft Azure, Google Cloud, Heroku

**Others:** Vim/NeoVim, Emacs, LaTeX, Markdown