

## EXPERIENCE

- Concordia University – Undergraduate Research Assistant** Montreal, QC  
*Concordia Data System Lab (CoDS) - under the supervision of Dr. Essam Mansour* June. 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* June. 2021 – Present
- Plan and prepare the technical infrastructure for ConUHacks 2022 - Montreal's biggest annual hackathon.
- DRW Trading – Software Developer Intern** Montreal, QC  
*Event-driven Trading Division in a High-frequency Trading Firm* May. 2021 – Present
- Develop a Computer Vision solution to compare web snapshots and extract meaningful differences, using OpenCV, Scikit-image, and Tesseract OCR.
  - Implement an efficient mechanism to crawl, take screenshots of 800+ URLs daily, then store in a remote Ubuntu VM, using Python with Selenium and Docker.
  - Build an alert system to report HTTP failures and abnormal responses from URLs.
- Ericsson – Open-source Software Developer Intern** Montreal, QC  
*Eclipse-Theia Team ([theia-ide.org](https://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](https://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
- McGill University - Desautels Faculty of Management**  
*Personal Finance Essentials (Certificate)* Jul. 2020

## VOLUNTEER & SOCIETY

- Concordia Institute for Co-operative Education:** CO-OP Mentor
- Unmanned Aerial Vehicles (UAV) Concordia:** Software Team Member
- Golden Key Honor Society - Concordia Charter:** Honor 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
- Languages:** French (Intermediate), English, Vietnamese