VIET-NHIEN TRAN DUC

WEB DEVELOPMENT & ENGINEERING

EXECUTIVE SUMMARY

I have a rich background in scientific research and extensive coding experience from several disciplines, including web development and numerical modeling. I also enjoy creating game engine and making real-time interactions between clients possible. My passion for coding and years of experience in it have driven me to seek a career in software development.

KEY STRENGTHS

- React
- Javascript
- Material-UI
- Socket.io
- Phaser
- jQuery
- Ajax
- ejs
- PostgreSQL
- Ruby
- Ruby on Rails
- Automated testing
- Python
- kivy
- Fortran
- Scientific research
- Master's thesis writing

REACH ME AT

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Github: https://github.com/vtranduc
Google Play:
https://play.google.com/store/apps/developer?id=Nick+Tran&hl=en

WORK EXPERIENCE, RESEARCHES, AND PROJECTS

App developments

- **Real time react networking games**: A web application designed using React in the front-end and express for back end. Real-time custom game engine is created for soccer game using socket.io. Aside from soccer game, there are also offline games using client-side based library, Phaser. Chat features, profile page for networking are also implemented. All data is well connected to database using psql.
- **Interactive event scheduler**: A web application with React in the front-end, The user can create, edit, leave, remove, and search the events. Each user has their own customizable profile page.
- **lhl_card_games_2**: A web application where card game is designed with jquery and ejs
- **Anime art puzzle**: A puzzle game with custom game engine. It is developed using Python with Kivy.
- **Phase Separation of binray-polymer solution**: A very efficient mathematical model for binary polymer fluid using Cahn-Hilliard equation and Flory-Huggin's theory. Galerkin-Finite-Element method is implemented. The model is made efficient enough to run on standard home PC. The program is written in Matlab. So far, one scientific journal has been published.

Master's thesis & Publication

Ryerson University | Sept 2016 - Jun 2019 (Toronto, ON)

- Publication: Tran Duc VN, Chan PK. Using the Cahn–Hilliard Theory in Metastable Binary Solutions. ChemEngineering. 2019 Sep;3(3):75.
- Thesis title: Computational study of comprehensive methods of initiating phase separation within metastable regions and obtaining some notable patterns in unstable region
- Research was done on phase separation phenomena of binary polymeric materials under several conditions, such as temperature gradients, surface potentials, etc.
- Clever numerical algorithm was written on Matlab to not only produce the intended program, but also to produce highly efficient code with ever higher resolution and accuracy.

Teaching assistant (TA)

Ryerson University | Sept 2016 - Apr 2018 (Toronto, ON)

- Instructed laboratory and seminar component of Chemical Engineering courses
- Graded the assignments, lab reports, and midterms, Prepared the instruments before the labs

Undergraduate project

University of Alberta | Jan 2015 - Apr 2015 (Edmonton, AB)

- Using FORTRAN, the interaction of solar wind with a satellite is numerically simulated. My contribution is to account for multi reflections of sun rays.

Senior tutor

iTutor | 2011 - 2015 (Edmonton, AB)

- Taught the students from grade 10 to first year University in Math, Physics, Sciences, Biology
- Had been a key member of the organization, as it grew from one small class to multiple branches across the city of Edmonton.

ACADEMIC BACKGROUND

Lighthouse Labs

Diploma, Web Development (Toronto, ON)

- Graduation: Sept 2019
- Have learned and experienced key concepts and tools in web development

Ryerson University

Master of Applied Science, Chemical Engineering (Toronto, ON)

- Convocation: June 2019 (Successfully defended on April 2019. See above for thesis details.)

University of Alberta

Bachelor of Science, Mathematics and Physics, double majors (Edmonton, AB)

- Convocation: June 2015