BANG CHI DUONG

https://bangchi.tk

Email: bangchi.duong.20193@outlook.com
Mobile: +1-778-955-6605
GitHub: https://github.com/duongch4/

Skills

- **Languages:** Python, R, C++, C#, Java, Javascript, SQL, HTML5, CSS3, Perl
- **Frameworks:** Azure, Azure DevOps, Webpack, Babel, Typescript, React, Bootstrap, NodeJS, Express, ASP.NET Core, ESLint, Flask, REST, GraphQL, Docker, JIRA, Mocha, Jest, PostgreSQL, MongoDB, SQL Server, TensorFlow, D3.js

Experience

- **Technical Safety BC** — Vancouver, Canada
  Data Scientist / Junior Software Developer (Internship) — *May 2019 – Aug 2019*
  - **API Backend Microservice - Flask/Docker:** Built a REST API backend microservice for the data science team to efficiently share data with other teams/departments, and set up Flask unit tests
  - **Web Scraping - Python:** Built a web scraper to gather public data on building permits from various sources
  - **PDF Information Extraction - Python:** Accelerated team's data processing time by building a tool that extracts information from PDF files into CSV/JSON formats
  - **Financial Forecast - Python:** Built a pipeline to evaluate the forecast accuracy of various time series models (e.g. classical (S)ARIMA(X), LSTM neural networks) to improve operational expenditure planning
- **Ubisoft - La Forge** — Montreal, Canada
  AI Programmer (Internship) — *Sep 2018 – Dec 2018*

  Optimized game developer and player experience by accelerating 3D interactive physics simulations with a 300 - 5000 times increase in speed:
  - **Data Acquisition - Maya nCloth:** Generated/Extracted a pool of interactive cloth and soft body data
  - **Deep Learning - Python:** Extracted a compact subspace representation of (256/128/64) bases from ∼10,000 dimensions using PCA, and trained neural networks entirely in the subspace to predict future motion trajectory
  - **Interactive Runtime Application - C++:** Integrated the learned models into a C++ runtime application

Projects

- **Resource Utilization System:** Based on external client specs in an agile environment, developed the back-end REST APIs with .NET Core MVC framework, integrated the application with the front-end and Microsoft SQL Server database, integrated Azure Active Directory authentication and authorization based on roles and scopes of users with OAuth 2.0 protocol, configured and managed the DevOps (CI/CD) process including unit and integration testings; **Technologies**: C#, .NET Core, React, Redux, Microsoft SQL Server, Azure DevOps
- **Full-stack Web Application Template (Ongoing):** Developing both front-end (React, Redux) and back-end (NodeJS, ExpressJS) using TypeScript, integrating with MongoDB as a noSQL database, linting with ESLint, transpiring and optimizing build with Webpack and Babel, and configuring the DevOps (CI/CD) process with Azure DevOps; **Deployed website**: https://mern-00.azurewebsites.net/; **Source code**: https://github.com/duongch4/mern/
- **2D 2-Player Game:** Built a **C++** game called **Capture the Castle** using the ECS pattern, contributed mainly on the AI and particle systems; it was awarded "Second Best Game" and came first in "Interaction and Control" in the class; **Executable file**: https://bangchi.tk/#projects/; **Source code**: https://github.com/duongch4/capture_the_castle/
- **Data Visualization:** Built a dynamic and interactive data visualization called **The Disney Story** with D3.js; it was presented in the course "Hall Of Fame". **Deployed website**: https://duongch4.github.io/cs436-disney/; **Source code**: https://github.com/duongch4/cs436-disney/; **Technologies**: JavaScript, D3.js, Python

Publications

- **18th Annual ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA 2019)** — Los Angeles, USA
  July 2019
  - **Paper:** Daniel Holden, Bang Chi Duong, Sayantan Datta, and Derek Nowrouzezahrai. 2019. **Subspace neural physics: fast data-driven interactive simulation**. In Proceedings of the 18th annual ACM SIGGRAPH/Eurographics Symposium on Computer Animation (SCA '19), Stephen N. Spencer (Ed.). ACM, New York, NY, USA, Article 6, 12 pages. **DOI: https://doi.org/10.1145/3309486.3340245**

Education

- **University of British Columbia** — Vancouver, Canada
  Bachelor of Computer Science (BCS); cGPA: 85.8/100.0 — *Sep 2017 – Apr 2020*