Takehiro **Tanaka**

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Skills

Programming C/C++ · Golang · Python · HTML/CSS/JavaScript · PostgreSQL/SQL-server · Bash/Powershell
Software TCP/IP networking · Microservices · client-server system · test automation (pytest, selenium) · Docker
Tools Git · Visual Studio · Visual Studio Code · Jenkins · WireShark · Postman · GitHub/GitLab/JIRA

Experience

Fortinet Technologies (Canada) ULC — *Burnaby BC, Canada*

Software Developer — *Feb. 2022 - Present*

- Design, develop, maintain FortiClient EMS product with C/C++, Golang on the back-end, and HTML/CSS/JS/Python on the front-end
- Worked on the rewrite of software from monolithic architecture, windows, SQL-server to microservices, linux, PostgreSQL for the scalable software
- Developed microservices: grpc worker with protobuf for the client-server system, daemon service, and http server
- Cover the bug fixes with unit test and test automation with pytest as a part of continuous testing
- Triage new issues and do task assigning, and conduct code reviews
- Troubleshoot and investigate the customer affected issue and provide hotfix as needed

Ford Motor Company of Canada Ltd. — *Ottawa ON, Canada*

System Software Performance and Stability (Co-op) — *Sept. 2019 - Dec. 2019*

- Contributed to the test automation on in-vehicle infotainment system devices with Python in an Agile environment with JIRA
- Developed the interactive front-end dashboard/visualization of performance data with HTML/JavaScript
- Implemented a responsive design of UI with Materialize framework and Google Charts
- Processed the data from the MySQL database to the front-end system for visualization

SFU's Big Data Hub — *Burnaby BC, Canada*

Research Assistant — *Jan. 2019 - Aug. 2019*

- Improved the data pipeline from the PostgreSQL database to analytics with Python and Bash with Spark
- Inspected 10,000+ rows of data weekly to monitor, analyze, and maintain the automation on the data pipeline

Big Data / Data Analyst (Co-op) — *May 2018 - Dec. 2018*

- Utilized APIs and web scraping to perform data collection, processing, and analysis mainly using Python
- Performed data cleaning, aggregation, and filtering with Pandas and Spark
- Analyzed 220,000+ rows of aggregated data on the Jupyter notebook with Python and visualized the data with Matplotlib and Tableau
- Migrated the existing data in JSON to the PostgreSQL database and established the data pipeline
- Trained the Word2Vec model to perform text analysis with NLP libraries such as gensim, spaCy, and nltk

Nanodevice Fabrication Group – Simon Fraser University — *Burnaby BC, Canada*

Nanomaterial and Nanodevice Fabrication Research (Co-op) — *May 2017 - Aug. 2017*

- Researched the fabrication of nanomaterials (2D Materials) by Oxygen plasma using Reactive Ion Etching
- Conducted a characterization of nanomaterials through Raman Spectroscopy with 514nm laser for the measurement analysis
- Analyzed the measurement data with MATLAB to confirm the single-layer thickness of nanomaterials and presented the progress/outcome to the group

Education

Simon Fraser University — *Burnaby BC, Canada*

BASc, Engineering Science (Honours with Distinction) - Engineering Physics Concentration — *Jan. 2016 - Oct. 2021*

- CGPA: 3.88 / 4.33

Projects

Impact of Video Compression on Object Tracking Performance — *Burnaby, BC*

Honours Thesis Project - SFU's Multimedia Lab — *Sept. 2020 - Aug. 2021*

- Researched the video compression effect on object tracking accuracy as a supervised study in SFU Multimedia Lab
- Built the experiment pipeline from data collection to analysis with Python and Bash
- Utilized the HEVC (H.265) codec for video compression and YOLOv3/SORT for multiple object tracking
- Analyzed up to 1,500 data points from 13 video samples statistically by weighted least square multiple linear regression, t-test, and visualization
- Leveraged data science and statistical libraries such as NumPy, Pandas, SciPy, Statsmodels, Matplotlib, and Plotly
- published the 2 research papers and dataset