

# TONY JIAWEI FAN

tonyjwfan@berkeley.edu | 1.403.464.2834 | linkedin.com/in/tonyjwfan

## OBJECTIVE

I am currently based in Calgary, Alberta, Canada, pursuing a remote, part-time master's degree in Information and Data Science at the University of California, Berkeley. I am looking to transition into Data Science roles, preferably in the field of technology, finance, or consumer products, that would allow me to apply my learnings directly to the real-world applications.

## EDUCATION

**Master of Information and Data Science**, University of California, Berkeley **May 2021 – Present**

- Pursuing part-time remotely in Calgary, Alberta (live online lectures in the evenings)
- GPA: 3.83

**Bachelor of Applied Science and Engineering**, University of Toronto, Toronto, Ontario, Canada **2011 – 2016**

- Mechanical Engineering – Minor in Sustainable Energy
- Professional Experience Year Co-op Program (PEY) – 16-month internship at ConocoPhillips

## PROGRAMMING EXPERIENCE

**Python**, proficient with NumPy, pandas, Matplotlib, experience with scikit-learn, Keras/TensorFlow  
**R**, exploratory data analysis and regression modelling

## SELECTED COURSEWORK

**Introduction to Data Science Programming**, University of California, Berkeley

- Learned the fundamentals of Object-Oriented Programming, Functional Programming, and visualizations within Python
- Developed a fully functional command line Blackjack simulator with an action recommendation feature using Python with a focus on Object-Oriented Programming
- Lead a team to perform exploratory data analysis on an OK-Cupid dating app dataset to derive user insights and presented results using visualization packages within Python

**Statistics for Data Science**

- Understood the fundamentals of probability theory, hypothesis testing and descriptive and explanatory model building using R
- Used hypothesis testing to determine the statistical significance of a given hypothesis and to compare the efficiency of higher dimensional OLS regression models as opposed to simpler regression models
- Conducted an end-to-end explanatory modeling project on the relationship between the negativity of a blog and the number of shares it accumulates, complete with research question conceptualization, data cleaning and operationalization, model building, hypothesis testing and results presentation

**Applied Machine Learning**

- Current semester coursework to be completed by April, 2022
- Complete weekly programming projects in Python to understand and apply machine learning algorithms such as Linear Regression, K-Nearest Neighbor classification, Decision Trees and Artificial Neural Networks

## EMPLOYMENT EXPERIENCE

**Data Analyst**, Advanced Simulations Group, JGC Corporation, Yokohama, Japan **Jul 2019 – Jan 2022**

- Headed the use of Python to improve the team's efficiency and capacity for data analysis related tasks
- Developed visualization tools and automated analytical tools in Python for field data analysis (data sets ~20 GB)
- Supported the implementation and expansion of JGC's proprietary Hot Air Recirculation (HAR) mitigation technologies for an Indonesian LNG plant by providing operation insights and recommendations
  - Used regression analysis to show that the technology has mitigated HAR by 3~4°C and increased LNG production by 10%
- Conducting research on the possibility of applying Physics-Guided Machine Learning (PGML) models to assist with CFD

**CFD Engineer**, Advanced Simulations Group, JGC Corporation, Yokohama, Japan **Jul 2019 – Jan 2022**

- Applied computer-aided design (CAD) and computational fluid dynamics (CFD) software to provide technical consultation for multi-disciplinary engineering problems in Oil & Gas EPC projects and research studies
- Performed CFD analysis on turbulent gas flow within a piping system to identify the cause of flow metering issues for a petrochemical refinery owned by a Japanese petroleum downstream client
- Designed and conducted a study to understand the effect of erosion on valve and piping systems within gas processing plants, the results of which was used to revise JGC's design specification on manual valves
- Minimized the length of pump inlet piping for future EPC designs by conducting flow distribution uniformity analysis on inlet liquids

**Piping Materials Engineer**, Plant & Piping Department, JGC Corporation, Yokohama, Japan

**Oct 2016 – Jun 2019**

- *Project – Coral South FLNG EPC for ENI S.p.A., 3.4 MTPA LNG capacity*
  - Conducted technical evaluations for piping specialty items (e.g. restriction orifices, pressure safety valves) and made vendor recommendations to the Procurement team based on vendor's manufacturing quality, capabilities and history
  - Worked with vendors on engineering design of piping items to guarantee compliance with project specifications
  - Maintained liaison with engineering joint-venture (JV) partner and facilitated solutions for design and scheduling conflicts
  - Coordinated with JGC's Process and Piping Layout team, as well as the Instrumentation team in JGC's overseas subsidiary to ensure piping materials data sheets are completed and up to date
- *Project – CGP-III EPC for Bahrain National Gas Expansion Company, 350 MMSCFD capacity*
  - Conducted technical evaluations for piping specialty items (e.g. strainers, hose and hose couplings)
  - Evaluated the economics of an alternative piping wall thickness calculation method and presented results to management

**Construction Supervisor**, PFLNG2 Project Site, JGC Corporation, Geoje, South Korea

**Apr 2017 – Sep 2017**

- *Project – PFLNG2 EPC for PETRONAS, 1.5 MTPA LNG capacity*
  - Worked with South Korean JV partner to oversee topside process module construction activities (e.g. pipe welding and installation, module weighing, piping hydrotests) and ensure that schedule requirements were met
  - Developed a construction progress tracking tool in Excel VBA which was adopted by all other supervisors
  - Led injury prevention activities such as toolbox meetings and "welcome gate" to improve site morale and safety culture

## **ADDITIONAL INFORMATION**

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- **Languages:** Native in English and Mandarin Chinese, working proficiency in Japanese (JLPT N2)
- **Interests:** Badminton, snowboarding, surfing, stock market investment