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Tanya Tan, Data Analyst

Transitioning to data science; supporting data-driven business strategies in higher education and educational technology industry

Skills

- Technical: Python (pandas, seaborn, scikit-learn, nltk), Tableau, R (caret, dplyr, ggplot2), SQL, HTML, MS Excel, MS Access, Qualtrics, SPSS
- Non-Technical: teamwork, project management, adaptability, self-directed learning

Work Experience

Research Analyst, Institutional Research

Langara College, Vancouver, Canada | from Dec 2018 to Present

- Develop interactive Tableau dashboards and reports to support senior management's strategic planning and decision-making
- Build efficient and reproducible analytics workflows using Tableau, R, Excel, and MS Access
- Manage regular reports of student applications, enrollment, academic outcome and workload
- Conduct complex analyses to inform recruitment and marketing strategies, budget allocation, course planning, and policy-making
- Analyze surveys related to program reviews and other college-wide initiatives
- Coordinate user management on Tableau Online site and monitor site traffic patterns. As a team, we engage and cultivate a college-wide data-driven culture. As of 2020 Q1, our Tableau Online site has seen a 5.3 times higher weekly site traffic compared to 2019.

Education Specialist, Chemistry

University of British Columbia, Vancouver, Canada | from May 2017 to Dec 2018

- Led the instructional design, research and evaluation components of an educational technology project (funded amount \$226K+) with

substantial expansion from implementing in a single course pilot to ~3000 students in 7 large-enrollment courses

- Provided consultation service to instructors on best practices of integrating the online learning tool (Alchemy)
- Conducted use-case testing, ad hoc analysis and survey research (using Qualtrics) to optimize the e-learning tool

Education Research Assistant

Simon Fraser University, Burnaby, Canada | from Sep 2016 to Aug 2018

Chemistry Lab Instructor

Kwantlen Polytechnic University, Surrey, Canada | from Aug 2016 to Apr 2017

Teaching Lab Specialist

University of Illinois, Springfield, IL | Oct 2013 to Jun 2016 Springfield

- Designed and led learning activities in six weekly sections of science courses
- Successfully initiated and completed several technology integration projects

Education & Certifications

- Data Scientist Nanodegree, Udacity (2020)
- Python for Data Science Nanodegree, Udacity (2020)
- Tableau Analyst Certificate, Tableau (2020)
- Data Science Foundations using R, Coursera (2020)
- M.Sc. in Chemistry, University of British Columbia, Vancouver, BC, Canada
- B.Sc. in Chemistry, Peking University, China

Selected Projects

Optimizing Starbucks App Offers with Machine Learning Algorithms (2020) | [GitHub Repository](#) | [Blog Post](#)

- Building a random forest model that predicts customers' response to App offers with 73% accuracy.

Boston Airbnb Rental Data Analysis (2020) | [Github Repository](#) | [Blog Post](#)

- Visualizing geographical and seasonal trends in pricing and availability of Airbnb Rentals in Boston area.

Online Teaching Preparedness Dashboard (2020) | [Tableau Public](#)

- Presenting a bird's-eye view of online teaching integration and assessing the impact of quick online transition

Annual Update Dashboard for Quality Assurance and Process Audit (QAPA) (2019)

- A high-level executive dashboard that analyzes student demand, department/program performance, and student outcomes

International Student Course Section Allocation Model (2019)

- A What-if Tableau dashboard that factors in enrollment pattern and tuition revenue, user-defined enrollment requirements, to predict international student enrolment and model course section needs.

Student Mobility Dashboard (2019)

- Customized Tableau dashboards to allow stakeholders to track the student mobility and outcome data within B.C post-secondary systems thus to provide important insights in program planning and marketing strategies.

Data-Enabled Pedagogy and Technology for Critical Thinking and Decision Making Skills (2018) | [Poster](#)

- Our team developed a pedagogical method and online tool, code-named [Alchemy](#), that helps students develop critical-thinking and decision-making skills.

Publications/Presentations

[7] **Tan, T.Y.**, Jain, M., Obaid, T. *et al.* What can completion time of quizzes tell us about students' motivations and learning strategies?. *J Comput High Educ* **32**, 389–405 (2020). <https://doi.org/10.1007/s12528-019-09239-6>

[6] **Tan, T.**, Bains, O., Barley E., Sharp J.C., Barker, M., (2019) *Can we influence student success in group work? The impact of lab group composition on student outcomes*, Poster presented at Society for the Advancement of Biology Education Research Annual Meeting

[5] Barker, K.M., Steves, E., **Tan, T.**, Bains, O., Barley, E., Sharp, J. (2019) Same courses, different worlds: undergraduate students learning to do lab science and graduate student TAs learning to teach science, Poster presented at Society for the Advancement of Biology Education Research (SABER West)

[4] Niu, H., Liu, Q., **Tan, TY.**, Nesbit, J.C., *Learning with Dialectical Map* (in preparation)

[3] **Tan, TY.**, Nesbit, S., Ellis, N., Ostafichuk, P. (June 2018). *Crossing Boundaries: Developing Transdisciplinary Skills in Engineering Education*, Paper presented at Canadian Engineering Education Association Conference, Vancouver, BC.

[2] **Tan, TY.**, Maxwell, E.J, Stewart J., Elouazizi, N., Algar, R. (April 2018). *Alchemy: an interactive learning platform with expert-like feedback and decision evolving toward learning analytics. Poster session presented at the TLEF showcase at the University of British Columbia, Vancouver, BC

[1] **Tan, Y.**, Konorov, S. O., Schulze, H. G., Piret, J. M., Blades, M. W., & Turner, R. F. (2012). *Comparative study using Raman microspectroscopy reveals spectral signatures of human induced pluripotent cells more closely resemble those from human embryonic stem cells than those from differentiated cells*. Analyst, 137(19), 4509-4515.

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