

# Fiona Anting Tan

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## Introduction

- Third-year Ph.D. student at the Institute of Data Science, National University of Singapore, and a recipient of the ISEP-IDS Scholarship
- I am passionate about applying my machine learning and deep learning skills to real-world problems.
- My research interests span across natural language processing and causality, with a focus on extracting causal relationships from text to enrich existing knowledge bases and anticipate outcomes.
- I am a firm-believer in empowering women in tech. I mentored at TechLadies and actively participate in communities like WomenWhoCode.

## Education

- 2020 – Present **Ph.D. Student** | Institute of Data Science, National University of Singapore, SG  
(Expected 12/2024)
- CAP Score: 4.88/5.0
  - Advisor: Ng See-Kiong
  - Relevant modules: Applied Econometrics II, Neural Networks and Deep Learning II, Pattern Recognition, Multivariate Data Analysis
- 2014 – 2017 **B.Sc. in Econometrics and Mathematical Economics** | London School of Economics and Political Science, UK
- First Class Honors with Econometrics dissertation titled 'Does competition affect workers' subjective wellbeing?'
  - Advisor: Guy Michaels

## Academic Activities

- 2021 – Present **Organizer** | Challenges and Applications of Automated Extraction of Socio-political Events from Text
- Proposed and organized the Event-Causality Shared Task for the 5<sup>th</sup> Workshop @ EMNLP (2022) and 6<sup>th</sup> Workshop @ RANLP (2023)
- 2021 **Teaching Assistant** | BT5126 Hands-on with Business Analytics (Post-grad level)
- 2016 **Part-time Research Assistant** | Harvard Economics Department, US
- Data collection for a macro-finance economic history research project
  - Advisor: Chenzi Xu

## Academic Honors and Awards

- 2021 1<sup>st</sup> place in FinCausal Shared Task on cause-and-effect span detection in financial news [Prize money of USD \$650]
- 2021 1<sup>st</sup> and 2<sup>nd</sup> place in CASE Shared Task on multilingual event coreference resolution in socio-political news
- 2020 Finalist (Top 7 out of 60 submissions) in AWS x WomenWhoCode Machine Learning Hackathon to battle COVID-19
- 2020 – 2024 Integrative Sciences and Engineering Programme (ISEP) and Institute of Data Science (IDS) Scholarship [Full Ph.D. scholarship with annual stipend of SGD \$43,200]
- 2015 Singapore-Industry Mid-term Overseas Scholarship [Partial undergraduate scholarship with lump sum stipend of SGD \$60,000]

## Academic Publications

**Fiona Anting Tan**, Debdeep Paul, Sahim Yamaura, Miura Koji, and See-Kiong Ng. 2023. Constructing and Interpreting Causal Knowledge Graphs from News. [Manuscript submitted for publication.]

**Fiona Anting Tan**, Xinyu Zuo, and See-Kiong Ng. 2023. UniCausal: Unified benchmark and model for causal text mining. 2023. In *Proceedings of Big Data Analytics and Knowledge Discovery - 25th International Conference, DaWaK 2023*, Penang, Malaysia. Lecture Notes in Computer Science, Springer. [Accepted]

Kaustubh Dhole, Varun Gangal, Sebastian Gehrmann, Aadesh Gupta, ..., **Fiona Anting Tan**, ... (many authors). 2023. NL-Augmenter: A Framework for Task-Sensitive Natural Language Augmentation. In *Northern European Journal of Language Technology, Volume 9*, Copenhagen, Denmark. Northern European Association of Language Technology.

**Fiona Anting Tan**, Hansi Hettiarachchi, Ali Hürriyetoğlu, Tommaso Caselli, Onur Uca, Farhana Ferdousi Liza, and Nelleke Oostdijk. 2022. Event Causality Identification with Causal News Corpus - Shared Task 3, CASE 2022. In *Proceedings of the 5th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE)*, pages 195–208, Abu Dhabi, United Arab Emirates (Hybrid). Association for Computational Linguistics.

**Fiona Anting Tan**, Ali Hürriyetoğlu, Tommaso Caselli, Nelleke Oostdijk, Tadashi Nomoto, Hansi Hettiarachchi, Iqra Ameer, Onur Uca, Farhana Ferdousi Liza, and Tiancheng Hu. 2022. The Causal News Corpus: Annotating Causal Relations in Event Sentences from News. In *Proceedings of the Thirteenth Language Resources and Evaluation Conference*, pages 2298–2310, Marseille, France. European Language Resources Association.

**Fiona Anting Tan**, Devamanyu Hazarika, See-Kiong Ng, Soujanya Poria, and Roger Zimmermann. 2021b. Causal Augmentation for Causal Sentence Classification. In *Proceedings of the First Workshop on Causal Inference and NLP*, pages 1–20, Punta Cana, Dominican Republic. Association for Computational Linguistics.

**Fiona Anting Tan** and See-Kiong Ng. 2021. NUS-IDS at FinCausal 2021: Dependency Tree in Graph Neural Network for Better Cause-Effect Span Detection. In *Proceedings of the 3rd Financial Narrative Processing Workshop*, pages 37–43, Lancaster, United Kingdom. Association for Computational Linguistics.

**Fiona Anting Tan**, Sujatha Das Gollapalli, and See-Kiong Ng. 2021a. NUS-IDS at CASE 2021 Task 1: Improving Multilingual Event Sentence Coreference Identification with Linguistic Information. In *Proceedings of the 4th Workshop on Challenges and Applications of Automated Extraction of Socio-political Events from Text (CASE 2021)*, pages 105–112, Online. Association for Computational Linguistics.

## Professional Experience

2022 – Present **Research Attachment** | Panasonic Industrial Devices Technology Centre, SG

- Constructing knowledge graph from electronics and supply chain news

2022 – Present **Research Attachment** | Changi Airport Group, SG

- Automating customer feedback categorization and topic modelling

2022 – Present **Reviewer**

- COLING 2022, IJCAI 2023, JBCB 2023

2021 – Present **Consultant** | Factorem, SG

- Factorem is a tech start-up revolutionizing the manufacturing space in Southeast Asia using AI-driven pricing and supplier-partner matching systems.
- Built object recognition and computer vision solutions based on 3D designs and images for projects including product similarity scoring, product price forecasting, and supplier to product matching

- Served as an advisor for interns working on data science projects
- 2020      **Mentor** | TechLadies
- 12-week program to provide women with personal career guidance from experienced industry practitioners as they grow their career in technology
- 2018 – 2020      **Data Science Analyst** | **Charles & Keith Group Data Science Department**, SG/CN
- Designed a product demand forecasting pipeline using ML on product features
  - Automated stock movement processes onto dot net framework, saving over 1040 man-hours; revised and optimized business logic formulas to reduce stock out and over stock situations
  - Created analytical tools and reports on various topics, such as: Underlying sales factors, reseller impact, omnichannel cannibalization, global product preference
  - Upskilled colleagues with Python know-how: Initiated and held a 3-month 'Introduction to Python Workshop' for over 20 staff; Guided participants on their own project to transform their own work processes into code
  - Overseas secondment to Shanghai: Unifying the processes and operating model between China and HQ on systems including stock monitoring, forecasting and replenishment systems
- 2017 – 2018      **Management Associate** | Charles & Keith Group Inventory Department, SG
- Rotated across International, Singapore and E-commerce Inventory Departments; Managed Inventory for major, new, and sunset markets (Singapore, Malaysia, Malta, Libya, and Panama)
  - Provided automation logic for B2B portals, BI, Qlikview and QlikSense reports
  - Recruited, trained, and assessed new employees in the department

#### Other Skills and Interests

- Coding languages: Python (Advanced), R (Advanced), SQL (Intermediate), Hive (Intermediate), Stata (Intermediate), Microsoft Excel and VBA (Intermediate)
- Workshops attended: INSEAD Analytics & Machine Learning for Superior Business Performance, Google Machine Learning Bootcamp
- Societies and Leadership Roles: Volunteering at THK Home for Disabled @ Eunost (2008 – Present), Vice President of Special Events for LSESU Economics Society (2015 – 2016)
- Hobbies: Netball