Yuxuan Wu

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EDUCATION

University of Toronto, Toronto, ON   September 2022 – April 2025
Honours Bachelor of Science, Mathematics and Statistics

Technical University of Munich, Munich, German   September 2021 – April 2022
Management and Technology (Completed First Year)

PROFESSIONAL EXPERIENCE

University of Toronto Prof. Robin Elliott's SSHRC-funded Project, Toronto, ON   September 2023 – June 2024
Research Assistant

- Mined and scrutinized historical data from digital and physical archives across Canada and Europe, utilizing Python for efficient information retrieval and accuracy
- Applied Python and MATLAB for data preprocessing, including cleaning, normalization, and transformation, to analyze historical documents from global archives, enhancing research accuracy and depth
- Engaged in methodical data collection and curation by liaising with international libraries, archives, and families, ensuring a rich and diverse dataset for research analysis
- Crafted extensive biographies with data-driven historical insights, employing quantitative analysis under Prof. Robin Elliott's guidance

PROJECT EXPERIENCE

Airbnb Price Dynamics: A Data-Driven Exploration(R)   Fall 2023
Methods of Data Analysis I In-course Project, University of Toronto, Toronto, ON

- Conducted advanced statistical analyses, including multivariate regression and time-series analysis, to pinpoint key determinants of price fluctuations and seasonal trends affecting Airbnb listings
- Utilized R's ggplot2 for rich data visualization, creating insightful charts and graphs that highlighted pricing patterns and anomalies, effectively translating complex data into understandable formats
- Developed Python models predicting a 20% rise in hypertension in the next decade in low-income areas if current economic trends continue, highlighting urgent public health needs
- Presented findings using Python-generated insights, leading to a report that influenced a local health policy discussion about targeted interventions in economically disadvantaged neighborhoods

Data Visualization Project: Scale of China's Influence on Social Media (Python, Power BI)   Fall 2023
CANIS Data Visualization Hackathon 2023, Toronto, ON

- Engineered intricate visualizations using Python libraries such as Matplotlib, Seaborn, and Plotly, to map out the breadth and depth of China's digital reach, focusing on user engagement and content dissemination patterns
- Performed data wrangling and manipulation using Python's Pandas library, ensuring high-quality datasets that facilitated nuanced insights into social media trends and influence metrics
- Integrated Python analysis with Power BI to create dynamic, interactive dashboards that allowed stakeholders to interact with the data, uncovering multifaceted insights into social media dynamics
- Contributed to the team's agile project management by implementing iterative design and feedback cycles, which improved the visualization quality and effectiveness in communicating complex data insights

Computer Science Project: Advanced Data Structures and Treemap Visualization   Spring 2023
Introduction to Computer Science, University of Toronto

- Mastered the implementation of recursive algorithms on tree data structures in Python, applying both mutating and non-mutating operations to navigate and manipulate hierarchical data efficiently
- Innovated a Python-based treemap algorithm to transform a dataset of chess games into a geometric visualization, revealing the complex hierarchy of strategies employed by Women Grandmasters (WGMs)
- Utilized Python libraries (NumPy, SciPy) for handling large datasets and mathematical operations integral to the treemap algorithm
- Created an interactive visualization tool that allows users to explore the WGMs' game strategies in a user-friendly format, enhancing accessibility for users with varied levels of technical expertise

EXTRACURRICULAR EXPERIENCE

Serve the City Brussels, Brussels, Belgium   June 2022
International Volunteer

- Led multicultural team initiatives, orchestrating community projects that catered to diverse needs with significant organizational skills
- Conducted English language training for over 40 refugees, facilitating their cultural integration and advancing language skills measurably
- Implemented oversaw afternoon programs for 30+ children with chronic illnesses, enhancing their well-being and community inclusion

ADDITIONAL INFORMATION

- Technical Skillset: Excel (PivotTable, Vlookup, Macro), Python (NumPy, Pandas), Power BI, MATLAB, MS Office Suite
- Languages: English (Professional working proficiency), German (Professional working proficiency), Chinese (Native)