Tian Tan

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EDUCATION

Boston University, Boston, MA   Jan. 2023
- **M.S.** in Electrical and Computer Engineering   GPA: 3.76/4.0

Macau University of Science and Technology, Macau   Jun. 2021
- **B.S.** in Computer Technology and Application, **First Class Honors**   GPA: 3.68/4.0

RESEARCH INTERESTS

Data Science, Machine Learning, Human-computer Interaction, Natural Language Processing

SKILLS

Languages: Mandarin, Cantonese, English (IELTS score 7/9: Listening: 7, Reading: 9, Writing: 6, Speaking: 6)
Programming: Python, MATLAB, Java, SQL, C++, LaTex   **Data Science**: Pandas, Numpy, Matplotlib, Sklearn, Folium
Software: Sublime, PyCharm, Visual Studio, Eclipse, Dev-C++, Jupyter Notebook, Anaconda, Git, Vim, Shell, Overleaf

RESEARCH EXPERIENCE

Boston University [Bio-Imaging & Informatics Lab](#)   Mar. 2023 - Jul. 2023
Research Assistant, Advisor: Prof. Bang-Bon Koo
- Constructed a pipeline for data science and regression models to help medical staff mine potential relationships between diffusion magnetic resonance imaging (MRI) measures and cognitive scores.

Boston University Bio-Imaging & Informatics Lab   Jan. 2022 - Jun. 2022
Research Assistant, Advisor: Prof. Bang-Bon Koo
- Established machine learning models for early diagnosis of Alzheimer's disease.
- Implemented dimensionality reduction and feature selection to find connections in multi-modal datasets.

Macau University of Science and Technology   Sep. 2020 - Jun. 2021
Research Assistant, Advisor: Prof. Subrota Kumar Mondal
- Worked on serverless computing, container technology, and security quantification.
- Published two articles and my thesis was awarded as one of the best papers in the academy.

UC Berkeley School of Information   Jun. 2020 - Aug. 2020
Remote Research Intern, Advisor: Prof. Noah Gift
- Topic: Cloud Computing for Data Analysis
- Submitted a project abstract and it was accepted for presentation at the 2nd [VSIP conference](#) (First Author).

Macau University of Science and Technology   Jan. 2019 - Jun. 2019
Research Assistant, Advisor: Prof. Zhiyao Liang
- Topic: Reinforcement Learning for Balancing a Flying Inverted Pendulum

Hunan Academy of Agricultural Sciences   May 2015 - Jan. 2017
Research Assistant, Advisor: Dr. Lifeng Wang, Consultant: Dr. [Longping Yuan](#) (National Academy of Sciences member)
- Topic: How to Reduce Pesticide Residues in Vegetables
- Won a national award and was presented it by the Vice President and the Minister of Science and Technology.

PUBLICATIONS

- Subrota Kumar Mondal*, **Tian Tan***, Sadia Khanam, Keshav Kumar, Hussain Mohammed Dipu Kabir, Kan Ni.
  Security Quantification of Container-Technology-Driven E-Government Systems
  Electronics, 2023.
- Subrota Kumar Mondal, Rui Pan, H M Dipu Kabir, **Tan Tian**, [Hong-Ning Dai](#).
  Kubernetes in IT Administration and Serverless Computing: An empirical study and research challenges
  The Journal of Supercomputing, 2022.
- **Tian Tan**, Xuepin Ma, Jun Liu, Zuren Li

Photocatalytic Degradation of Residual Orthene in Vegetables by Nano-TiO_2
China Science & Technology Education, 2017.

Note: * above denotes equal contribution

WORK EXPERIENCE

Social Media Analyst Intern, Boston USWOO Realty LLC, MA   Aug. 2023 - Present
- Analyzed social media data to discover user psychological preferences and developed products interactively.
- Conducted media promotion and product marketing, such as poster design, copywriting and page layout, etc.

Teaching Assistant, EC 414 Introduction to Machine Learning   Jan. 2022 - May 2022
Advisor: Prof. Prakash Ishwar, Boston University College of Engineering
- Implemented machine learning algorithms in MATLAB and took charge of the office hour.

Electrical Engineer Intern, Han's Laser Technology Industry Group Co., Ltd., China   Jul. 2019 - Aug. 2019
- Designed 3D printed models of mechanical parts and tested 3D printing slicing software.

Pre-sales Assistant Engineer Intern, Tencent Cloud Co., Ltd., China   Jun. 2019 - Jul. 2019
- Fulfilled the bidding for the Changsha Urban Smart Medical Program.
- Completed industrial data statistics, demand boundary management, and product designing.

PROJECTS

Boston City Services Project: Relief Funds Equity   Sep. 2022 - Dec. 2022
- Ensured that the City of Boston equitably distributed relief funds across demographics during the pandemic.
- Performed data analysis of business relief data and census data to determine the scope and adequacy of aid.

Apple iCloud Project: Encrypted Search over FoundationDB   Sep. 2022 - Dec. 2022
- Created a client side interface for the FoundationDB database to support encrypted search.
- Deployed the program on a multi-node cluster and compare performance between encrypted search algorithms.

Amazon Movie Review for Rating Prediction (Kaggle Competition | Top 10%)   Oct. 2022 - Nov. 2022
- Executed One-Hot Encoding for categorical features and analyzed text by TF-IDF algorithm.
- Engineered regression models and tuned hyper-parameters with GridSearchCV method.

Dimensionality Reduction for Data Visualization   Oct. 2021 - Dec. 2021
- Realized different dimensionality reduction algorithms (PCA, T-SNE, ISOMAP, UMAP) on classic datasets.
- Accomplished the visualization of the dimensionally reduced data and explored the performance.

CERTIFICATIONS AND AWARDS

- 'Database Administration Fundamentals' and 'Programming using Java' certified by Microsoft.
- 'Data Security' certified by Collaborative Institutional Training Initiative (CITI).
- 'Artificial Intelligence' certified by Huawei Cloud.
- Provincial Second Prize, 2019 China Undergraduate Mathematical Contest in Modeling (CUMCM).
- 3rd Class China Regional Award, RoboMaster 2018 Robotics Competition.
- First Prize, China Adolescents Science & Technology Innovation Contest (CASTIC).
- Chairman Award of China Association for Science and Technology, CASTIC.
- Grand Prize, The "CST CUP" National Scientific Literacy Competition.
- International Silver Award, World Robot Olympiad (WRO).

ACTIVITIES

Volunteer, Chinese Red Cross   Jul. 2016 - Jul. 2021
- Participated in many volunteer activities to provide services to those in need.

Volunteer & Deputy Director, Macau Youth Artistic Ability Volunteer Association   Sep. 2018 - Sep. 2020
- Organized volunteer activities and served as a volunteer teacher in a rural primary school (News Video).

Journalist, Changsha Evening News   Mar. 2009 - Jul. 2020
- Wrote and published articles about social issues, such as educational equality, human rights, etc.

Director & Screenwriter, "Dream Market" - HD Short Film   Jan. 2018 - Dec. 2018
- Received the Excellence Award in the 2018 Campus English Short Film Competition.