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## Xin Tan

Gender: Female | Date of Birth: 2001-10-01 | Place of Birth: Guangzhou, China

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### EDUCATION

**Jilin University**, Changchun, China **Sept.2021–Present**

*B.Sc. in Computer Science and Technology* (Minor, Expected graduation in June, 2023)

Main courses: Advanced Language Programming, Operating System, Java Object-Oriented Programming, Computer Networks, Data Structure & Algorithm, Computer Organization, Web Design, etc.

**Jilin University**, Changchun, China **Apr.2019–Present**

*B.Eng. in Environmental Engineering* (Major, Expected graduation in June, 2023)

Main courses: Geostatistics, Hydraulics, MATLAB Programming, Python data analysis and visualization case practice, Probability and Statistics, Physical Pollution Control, Environmental Monitoring, University Physics, Calculus, Engineering Mechanics, etc.

**Department of Earth and Environmental Sciences, University of Kentucky**, Lexington, Kentucky **May.2021–Jun.2021**

- *Global Water Issues* (With an A grade and 1 credits, 99/100)

**Oriel College, University of Oxford**, OX1 2JD, United Kingdom **Aug.2020–Aug.2020**

*Student of Summer Institute 2020 online Programme,*

- *The Health of Nations: current challenge and future possibilities* (With an A+ grade and 3 credits, 96/100)

**Regent's Park College, University of Oxford**, OX1 2JD, United Kingdom **Jan.2020–Feb.2020**

*Student of Oxford Prospect Short-term Exchange Programme,*

- *Best Presentation Award*

Lectures mainly include: Statistical Machine Learning, Biodiversity and Climate Change, Air Pollution from Vehicles, Fluid Dynamics, etc.

**GPA: 85.20/100**    **IELTS 7.5** (R8.5 L9.0 S6.5 W6.0)

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### PROJECT EXPERIENCE

**Team member** | Advisor: **Prof. Yu Zhang** | College of Computer Science and Technology, Jilin University **Oct.2021–Present**

*Design and Implementation of Recognition System Based on Python*

- Configure **Python** development environment and build the experimental platform.
- Conduct detection and recognition of numbers, letters and human faces in the pictures with Python and OpenCV.
- Carry out self-designing experiments based on functional requirements, determine the optimal results and submit test report.

**Team leader** | Advisor: **Prof. Hong Mei** | College of New Energy and Environment, Jilin University **Aug.2021–Present**

*Engineering Practices Teaching in Bohai Bay, Liaoning Province*

- Collect groundwater samples from wells of local villagers in coastal areas to evaluate the risk of seawater intrusion. Collect surface water samples along Baisha River, conduct chemical experiments and analyze data with **MS Excel & Origin**, study the impact of agricultural bases and chemical enterprises nearby.
- Gather soil samples in areas near tailing reservoir and detect element concentrations, analyze the data based on principal component analysis & R cluster analysis with **SPSS**, conduct pollution assessment of heavy metals in soil with **ArcGIS10.2**.

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### INTERNSHIP

**Assistant** | **Liede Wastewater Treatment Plant**, Zhujiang New Town, Guangzhou, China **Jun.2020–Jul.2020**

*Intern at the Intelligent Dispatch Office and Laboratory*

- Monitor the operation of each phase online, track their progress through "Smart Drainage" integrated control platform, organize and process daily data. Work with senior staff to conduct regular servicing of the equipment based on site inspection, regulate the volume of water and reagents according to the treatment capacity and sewage discharge.
- Conduct chemical experiments in the lab to test basic water quality indicators like ORD, DO, TN, TP, COD, etc.

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### SELECTED HONOR

**Outstanding Winner** | *The 7<sup>th</sup> National Undergraduate Hydraulic Innovation Design Competition*

Issuer: China Association of Hydraulic Engineering Education | Issue date: Aug.2021

Duration: **May.2021–Aug.2021** | Instructor: **Prof. Ying Lu**, College of New Energy and Environment, Jilin University

*Design: A miniature version of semi-automatic groundwater level gauge*

- Program with **Python** to control the retractable scale, automatically count the distance between land surface and the groundwater level. Optimize the design by reducing the volume of the internal parts and beautifying its overall appearance, use composite resins to make it light and portable. (Additional outcome: Patent is under verification.)

### **First Prize | *The 3<sup>rd</sup> Provincial Undergraduate Physics Experiment Competition***

Issuer: Organizing Committee of Jilin Undergraduate Physics Experiment Competition | Issue date: May.2021

Duration: **Mar.2021–May.2021** | Instructor: **SN ENGR. Shuo Li**, School of physics, Jilin University

- Design a simple method to measure the wavelength of visible light based on Fraunhofer diffraction, only with handy lab tools and reach high precision of 0.00001. Conduct the realization of curve fitting with **MATLAB**.

### **Successful Participant | *The 37<sup>th</sup> Mathematical Contest in Modeling (MCM)***

Issuer: the Consortium for Mathematics and Its Application (COMAP) | Issue date: Apr.2021

Duration: **Feb.2021–Feb.2020** | Instructor: **Prof. Liufang Xu**, School of physics, Jilin University

- ICM Problem D (operations research/network science): Examine evolutionary and revolutionary trends of artists and genres basing on the given data, and develop a model that measures musical influence.

### **Provincial Third Prize | *The 29<sup>th</sup> Contemporary Undergraduate Mathematical Contest in Modeling***

Issuer: China Society for Industrial and Applied Mathematics | Issue date: Nov.2020

Duration: **Sept.2020–Sept.2020** | Instructor: **SN ENGR. Xianlong Li**, School of physics, Jilin University

- Problem C(data science): Establish mathematical model basing on the given data to study credit risk of the bank, and develop credit strategy such as interest rate and loan amount towards the small and medium-sized enterprises.

## **SOCIAL ACTIVITIES**

**Member** | iOS CLUB of Jilin University

**Sept.2021–Present**

- Participate in weekly Xcode training workshop, develop mini games using swift.
- Help with the organization of lectures on WWDC Scholarship information sharing.

**Member** | Leap Promotion Association of Jilin University (LPA × JLU)

**Jul.2020–Present**

### **Staff of the Network and Information Department**

- Cooperated with the Office of Undergraduate Education and Office of Global Engagement of Jilin University to compile the "Feiyue Handbook"-a comprehensive guide focusing on the improvement of the academic background and application of studying abroad of Jilin University students.
- Develop Wechat Mini Program as tickets-booking system for the monthly lectures on studying abroad.

## **RESEARCH EXPERIENCE**

**Research Assistant** | Advisor: **A/Prof. Yangxue Li** | College of New Energy and Environment, Jilin University

**National Undergraduate Training Program for Innovation of China**

**May.2020–Present**

*Project: Preparation of CD-2 and study of its adsorption mechanisms on removing methylene blue from water*

- Design and synthesize a new covalent organic frameworks (COFs) called CD-2 for chemical adsorption. Characterize the materials by XRD, Zeta potential, SEM analyses, etc. Use CD-2 to removed methylene blue from water and find out the optimal adsorptive condition. Carry out repeated experiments to obtain it's recycle rate.
- Study the adsorption kinetics and thermodynamics of methylene blue absorbed on CD-2. Process data with **Microsoft Excel** and **Origin2021**, give comprehensive evaluation of CD-2 on its adsorption efficiency and application prospect.

**Progress so far:** Paper has been cast and is under review. Patent is under verification.

## **LICENSES**

### **National Computer Rank Examination Certificate of Level II**

MS Office Advanced Application and Design

Issuer: National Education Examinations Authority | Issue date: Sept.2020 (Permanently Valid)

Credential ID: 65582200443281

### **IELTS 7.5**

Issuer: British Council | Issue date: Aug.2019

Credential ID: 19CN059183TANX002A

## **PROFESSIONAL SKILL**

- **Packages and Software:** C, Python, Swift, SPSS, MATLAB, LaTeX, R, Origin2021, MySQL, MS Office, ArcGIS10.2.
- **Analytical instruments:** ultraviolet-visible spectrophotometer, flame atomic absorption spectrophotometer, infrared spectrometer, Zeta potential analyzer, centrifugal machine, magnetic stirrers, analytical balance.
- **Research capacity:** quantitative research, fieldwork, desk research and systematic review.
- **Languages:** Cantonese (Native), Mandarin (Native), English (Advanced), French (Completed courses band A1).