

LAN WU

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Department of Analytic and Operations

National University of Singapore

EDUCATION

Doctor of Philosophy National University of Singapore Expected 05/2025

- Major in Analytic and Operations (Stochastic Processes I A+/ Foundation of Optimization A+)

Bachelor of Engineering The Chinese University of Hong Kong, Shenzhen 09/2017 - 05/2021

- Major in Electronics Information Engineering
- Average Score 3.70/4, Rank 3 (top 5%)
- Worked as Undergraduate Student Teaching Fellows (USTF) in Physics Laboratory and C++ Courses

Pembroke-King's Summer Programme University of Cambridge 07/2019 - 08/2019

- Political Risk and Strategic Outlook for Global Business (A) / From Brain to Behavior (A-) / Supervision - DCCP Applied in Obstacle Avoidance (A)

RESEARCH AND EXPERIENCES

Robotics Institute Summer Scholars Undergraduate Research Program, Carnegie Mellon University

Intelligent Coordination and Logistics Laboratory, Prof. Stephen F. Smith, Dr. Isaac Isukapati 06/2020 - Present

- Constructed a real-time model for paratransit system and simulated based on history request data in Python
- Implemented a destination-aware auction algorithm with cost function to assign requests to vehicles
- Implemented a heuristics algorithm named swapping to increase system efficiency with future anticipation
- Working on a paper of Destination-Aware Auction Systems for Paratransit Scheduling (submitted to IJCAI-21/ presentation link)

Unmanned Ground Vehicle & Unmanned Aerial Vehicle Research Project, The Chinese University of Hong Kong, Shenzhen

Laboratory of Sensing and Communication for Smart City, Prof. Simon Pun 06/2018 - Present

- Assembled small-size automatic model cars and constructed the module of real-time car-drone telecommunication with Arduino and Raspberry Pi
- Implemented first-order, second-order, CVX route planning methods and PID control algorithm in system simulation
- Analyzed both practical and simulated result of algorithms and experimented with different object functions on cars to compare the performance
- Working on a paper of Vision-Based UAV-UGV Coordinated Path Planning by Convex Optimization (published as the second author)

Independent Supervision, University of Cambridge

Pembroke-King's Programme, Dr. Carlos Lugo-Velez 07/2019 - 08/2019

- Reshaped objects on a map into a combination of basic convex patterns
- Solved complex route planning problems with the DCCP method in real settings

HONORS AND PRIZES

- Dean List, The Chinese University of Hong Kong, Shenzhen 2018 - 2020
- Undergraduate Student Research Scholarship, The Chinese University of Hong Kong, Shenzhen 2018 - 2020
- Muse College Master's List Scholarship: Whole-person Development Star, The Chinese University of Hong Kong, Shenzhen 2019
- Excellent Student Award, The Chinese University of Hong Kong, Shenzhen 2019
- The Consortium for Mathematics and Its Application: Meritorious Winner (Details) 2019
- Shenzhen Concert Hall Hosting Contest: Meritorious Presenter 2019
- SSE Academic Scholarship Recipient, The Chinese University of Hong Kong, Shenzhen 2018

- Student Outstanding Performance and Leadership Award , CUHK(SZ) 2018
- SF Foundation Summer Camp Program Planning Competition: First Prize with 10,000-yuan 2018
- Admission Scholarship: 30,000-yuan per year, CUHK(SZ) 2017

SELECTED COURSE PROJECT

Introduction to Computer Science: Programming Paradigms

Simulated Mac Operating System with Qt GUI 04/2020

- Implemented several games like Fishing Joy and Gluttonous Snake in C++
- Designed an Appstore for app installation and implemented desktop sorting algorithm

Database

Airport Database Design and App Demonstration 03/2020

- Realized an airport database schema for ticket purchase, information check, and gift exchange in SQL
- Implemented the App Demo that assigns different access level to various users with Qt
- Implemented the App database which supports data input, delete, and update

Operating System

Course Assignment 10/2020

- Created child process and gave response to various exceptions with Ubuntu system
- Implemented a multi-thread small game in C simulating the player crossing the river with random moving flotages

EXTRACURRICULAR ACTIVITIES

- Host in Beautiful-Sunday Benefit Concert Program, Shenzhen Concert Hall 2020
- Volunteer Teacher in Teach-for-China Program, Guizhou 2018
- Team Leader in Movie Festival Program, The Chinese University of Hong Kong, Shenzhen 2018
- Team Leader in Student Manual Editorial Board, The Chinese University of Hong Kong, Shenzhen 2018
- Piano Performer in Spring Concert, The Chinese University of Hong Kong, Shenzhen 2018
- Dance Performer in Mid-Autumn Festival Party, The Chinese University of Hong Kong, Shenzhen 2018
- Fencing Team Member, The Chinese University of Hong Kong, Shenzhen 2018
- Piano Performer in High Table Dinner, Muse College 2017

SKILLS

Computer Skills	C/C++, Python, MATLAB, Java, R, SQL, Excel
Languages	Chinese (Native), English (Fluent, Toefl-104, GRE-167(Q) 156(V))
Interest	Piano, Erhu, Fencing, Hosting, Chinese Dance, Chinese Painting