Yutong Ji

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Education

Georgia Institute of Technology — *Remote*

M.S., Computer Science — *08/2020 - present*

Relavant Coursework: Database Systems Concepts and Design, Simulation

Heidelberg University — *Heidelberg, Germany*

M.S., Physics and Astronomy, GPA: 2.3/5.0, Grading Scale: from 1 (best) to 5 (worst) — *02/2018 - 03/2021*

Relevant Coursework: Python,Computational Physics, Astronomical Techniques, Astrophysics

Nanjing University — *Nanjing, China*

M.S., Theoretical Physics, GPA: 80.33/100 — *08/2016 - 06/2017*

Relevant Coursework: Advanced Quantum Theory, Group Theory, Quantum Field Theory

Nanjing Normal University — *Nanjing, China*

B.S., Physics, GPA: 86.67/100 — *08/2012 - 06/2016*

Relevant Coursework: C language Programming, Data Structure, Operating System, Numerical Methods, Advanced Mathematics, Linear Algebra, Mathematical Modelling, Method for Mathematical Physics

Skills

Technical Skills: Python, C++, IDL, MySQL, HTML, CSS, Javascript, Linux, Git, Matlab, Mathematica, Arena

Personal Skills: Excellent team player, Strong communication skills, Project management skills, Fluent in spoken and written English

Experience

Course Project for Database: LEOFURN Sales Reporting System — *Remote*

Jan. 2021 - Present

- Led a team to design a database with as little redundancy as possible for a furniture company.
- Attached the database to a rudimentary user interface with functions like inserting, updating, and querying data.
- Implemented a system to generate reports for different sales data queries.

Course Project for Simulation: Traffic Light Signal Timing — *Remote*

Sep. 2020 - Nov. 2020

- Worked as a team to build up a traffic lights model based on data collected and analyzed at a specific intersection.
- Used Arena simulation to correct and validate the theoretical model and investigated factors that mainly influence traffic efficiency.
- Developed different timing scenarios and used simulation to find the optimal timing solution for the intersection.

Master Project: The Impact of Magnetic Fields on the Limb Darkening of Solar-like Stars — *Heidelberg, Germany*

Feb. 2020 - Jan. 2021

- Developed an FFT (Fast Fourier Transformation) algorithm to simulate light curves of transiting process.
- Implemented and compared a series of techniques for fitting limb-darkening law of 3D magnetic models.
- Investigated other possible parameters' influence on limb-darkening law, like limb definition, the inclination of the transiting system.

Student Assistant at Heidelberg-königstuhl State Observatory(LSW) — *Heidelberg, Germany*

Apr. 2019 - Dec. 2019

- Developed an IDL routine that can flexibly extract information from differently structured astronomical databases.
- Solved several boundary condition problems in electrostatics with the ver-relaxation method.
- Simulated possible solar acoustic spectrums with the Ornstein-Uhlenbeck process.

Coursework for Numerical Methods and Computational Physics — *Nanjing | Heidelberg*

2014 | 2018

- Developed C++ routines for a series of mathematical problems, from solving non-linear equations, fitting functions to analyzing matrix.
- Developed Python routines for 11 computational physics problems from solving Schrödinger Equation, Three-Body Problem to Ising Model.
- Learned new methods for solving problems, like Metropolis Algorithm, Euler Scheme, Runge-Kutta, Numerov algorithm, Monte Carlo Method as well as error and stability analysis.

Honors

2014 **China Undergraduate Physics Tournament (CUPT),** Best Competitor — *Wuhan, China*

2014 **Nanjing Normal University,** Model Student of Academic Records — *Nanjing, China*

2013 **Nanjing Normal University,** Scholarship for Outstanding Students — *Nanjing, China*