

ZHIYUAN "PAUL" ZHOU

developer & researcher

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EDUCATION

Brown University Expected May 2023
Sc.B. Applied Math - CS GPA: 4.0/4.0

Affiliated HS of SCNU June 2019
High School Diploma SAT 1580

COURSEWORK

Intro to Computer Systems
Intro to Functional Programming
Intro to Object Oriented Programming
Deep Learning
Collaborative Robotics (graduate)
Reinforcement Learning (online)
Computational Probability & Statistics
Statistical Inference
Applied Ordinary Differential Equations
Honors Linear Algebra
Honors Calculus

SKILLS

- Python · Java · Scala · HTML/CSS · C#
· MATLAB · LaTeX · ReasonML · Pascal · Racket
- Unity · Adobe InDesign · After Effects · WordPress

ACHIEVEMENTS

- National 227th in Putnam 2019, top 2 at Brown
- 2nd Place in Hartshorn-Hypatia Math Contest
- Regional top 10 & international top 100 in Physics Bowl
- Provincial top 1% in Chinese Physics Olympiad
- Brown UTRA research scholarship
- only recipient of PROMYS 2018 Yongren Full Scholarship
- Finalist in High School Mathematical Contest in Modeling (HiMCM)
- Top 5% in AMC12 & qualification for AIME

INTERESTS

- amateur badminton
- ballroom dancing
- cycling
- guitar

RESEARCH

Undergraduate Researcher 📅 June 2020 - Present
Paradiso Lab, Brown University 📍 Providence, RI

- Invented 3 real-time video object recognition post-processing models based on Inertial Measurement Unit (IMU) that increases performance by over 50%
- Implemented the models in **Python** for use in a vision prosthetic alongside Prof. Michael Paradiso and maintained easy access of said models on GitHub 🔗
- Authored a paper "Improving Post-Processing Methods on Video Object Recognition Using Inertial Measurement Unit" 🔗

TECHNICAL EXPERIENCE

Founder & Volunteer 📅 Jan 2016 - Present
Shengsheng Interactive Math Class 📍 online

- Developed sustainable online Math class 🔗 on UMU platform for 4000+ students from across China, including minority students, and directed other students to work with me to sustain the project
- Uploaded 300 Math tutorial videos & notes and conducted web chats with students
- Collaborated with teachers at Guangzhou 71st Middle School and developed a specific Math course for their students

Ecommerce SEO Intern 📅 June 2019 - July 2019
Panlelo Inc. 📍 Guangzhou, China

- Designed and created a brand-new website using WordPress to promote company products online
- Learned and conducted Google Search Engine Optimization (SEO) on the new website
- Optimized and maintained company social media promotional account and uploaded short videos to attract internet traffic for product promotion

CS PROJECTS

Cha-Ching! | Personal Project 📅 August 2020
- an autonomous **Java** agent that trades intelligently in a simulated stock market

Controbo | Research Project 📅 May 2020
- a **Python** & **C#** API in Unity 🔗 that enables Natural Language (NL) and gesture control of robots in finding the destination during navigation problems
- implemented a Natural Language Processing network using deep learning and laid groundwork for implementation of the API in Virtual Reality (VR) using Vive headsets

Search | Course Project 📅 May 2020
- a search engine in **Scala** that uses term frequency and PageRank algorithm to index a wiki and return most relevant documents based on a free text query

Recommender | Course Project 📅 April 2020
- a **Java** Decision Tree generator that parses raw datasets, generates Decision Trees, and uses the trees to make intelligent predictions

Connect4 Solver | Course Project 📅 December 2019
- a general purpose AI that can play any two-player, sequential, finite-action, deterministic zero-sum game with Minimax algorithm and alpha-beta pruning
- created a connect4 AI player in **ReasonML** than won 1st place in class tournament