Boyuan Zhang

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Education

New York University, College of Arts and Sciences, New York, NY Jan. 2021 – Dec. 2023(exp.)
Bachelor of Arts, Computer and Data Science
- Minor in Mathematics and Business Studies; GPA: 3.78/4
- *Honor: Dean's List (Academic year 2021-22)*

New York University, School of Professional Studies, New York, NY Jan. 2022 – Dec. 2023(exp.)
Certificate in Sports Analytics

The Experimental High School Attached to BNU, Beijing, China Sep. 2017 – June 2020
- *Honor: Golden-Ship Award (Top 1%)*

Syracuse University, Falk College of Sport and Human Dynamics, Syracuse, NY July 2019
Berlin Sports Analytics Academy

Academic Interest

Statistical Data Science, Statistical Inference, Machine Learning, Deep Learning, Sports Analytics

Research Experience

Carnegie Mellon University, Department of Statistics and Data Science, Pittsburgh, PA
Summer Undergraduate Research Experience in Statistics June 2022 – July 2022
- Research Area: Data Science in Sports Analytics
- Advisors: Dr. Ronald Yurko, Dr. Konstantinos Pelechrinis

Peking University, School of Electronics Engineering and Computer Science, Beijing, China
Science Talent Program Mar. 2018 – Dec. 2018
- Research Areas: IoT, Embedded Systems, Computer Electronics and Information Technology
- Advisor: Prof. Yanjun Yang

Projects

Fingertips Position Estimation of a Robot Hand (Python) Fall 2022
- Trained a Convolutional Neural Network which takes the RGBD images of the robotic hand from three different views as input and returns the positions of each fingertip

Lip Reading Word Classification (Python) Fall 2022
- Built Convolutional Neural Network and Long Short Term Memory model that takes a sequence of preprocessed video frames of the speaker as input and identifies the speaker's words

Regularized Adjusted Expected Goal Plus-Minus Model for Soccer (R, Python)   Summer 2022
- Developed a new RAPM model for evaluating player's performance and contribution in soccer, which incorporates pre-trained priors using box-score data to predict expected goals differential

University Course Registration System (Java)   Fall 2021
- Designed functions such as add, edit, delete courses and students list by utilizing skills in OOP
- Created different interfaces for students and admins to login and execute functions

Admission of Highly Selected Public High Schools in NYC (Python)   Spring 2021
- Cleaned characteristics data such as class size and per-student spending of 594 middle schools
- Explored the correlation between these factors and admission to high schools

Difference in Players' Performance Between NBA and EuroLeague (Tableau, R)   Summer 2019
- Collected performance data of 100+ players who have played in both leagues
- Analyzed shot percentage, points, assists, and rebounds; visualized data in Tableau dashboard

Personalized Intelligence Mailbox Based on IoT (Android Studio, Arduino)   2018
- Assembled the cabinet and utilized Arduino to manage modules and functions on the mailbox
- Developed mobile app in Android Studio to control the mailbox remotely via Gizwits Cloud

Talks

Carnegie Mellon Sports Analytics Conference, Pittsburgh, PA   Oct. 2022
A Regularized Adjusted Plus-Minus Model in Soccer with Box Score Prior
Carnegie Mellon Sports Analytics Camp, Pittsburgh, PA   Aug. 2022
A RAPM Model for Soccer Player Ratings (with Edvin Tran Hoac and Phong Hoang)
Science Talent Program Computer Science Forum, Sichuan, China   Nov. 2018
Personalized Intelligence Mailbox Based on IoT

Publication

- **Work in Progress**
  "A Regularized Adjusted Expected Goal Plus-Minus Model for Soccer"

Teaching Experience

New York University, Courant Institute of Mathematical Science, New York, NY
Tutor: CSCI-UA 0002 Introduction to Computer Programming   Fall 2022
- In-class tutoring: section 6 for Prof. David Prager and section 10 for Prof. Khye Borg Liew
- Held drop-in tutoring sessions every week; helped 350+ students over the entire semester

The Experimental High School Attached to Beijing Normal University, Beijing, China
Instructor: Orienteering   Fall 2019 – Fall 2020

- An orienteering elective course for grades 7-10 students focusing on map reading, terrain, compass, basic orienteering skill, and basic cartography, with field practice
- Created course curriculum, material, and managed classes with 20+ students

Other Experience

Learnjoy Sports, Beijing, China   Sep. 2020 – Dec. 2020
Events Management and Operation Intern
- Managed equipment, volunteers, and assisted events manager in facilitating the process during events and competitions
- Designed events plan and completed events summary by analyzing related data information

Services

Academic Tutor, **NYU Teaches**   Oct. 2021 – Present
Captain, **ESBNU Orienteering Varsity**   Sep. 2017 – June 2020
Director of Sports Department, **ESBNU Student Council**   Nov. 2017 – Nov. 2019

Awards

Honorable Distinction in the Computational and Algorithmic Thinking Competition   2019
Second Prize in Beijing Young Science Creation Competition   2019
Honorable Mention in High School Mathematical Contest in Modeling   2018
Second Prize in the National Olympiad of Informatics in Provinces   2018

Skills

Coding: Python: TensorFlow, PyTorch, sklearn, scipy, statsmodels, Pandas, Numpy, Matplotlib, seaborn
R(tidyverse, ggplot, caret, glmnet), SQL, Java, C/C++, MATLAB
Technical: Git, Markdown, LaTeX
Tools: Tableau, MongoDB, Android Studio, Arduino, OCAD, Excel, PowerPoint, Word

Relevant Courseworks

- **Data Science and Computer Science:**
  Advanced Machine Learning and Deep Learning, Data Management and Analysis,
  Intro to Machine Learning, Artificial Intelligence and Machine Learning, Basic Algorithms,
  Computer Systems Organization, Data Structures, Intro to Data Science
- **Mathematics and Statistics:**
  Probability and Statistics, Regression and Forecasting Model, Causal Inference,
  Multivariable and Vector Calculus, Linear Algebra, Discrete Mathematics
- **Others:**
  Foundations of Sports Analytics, Information Technology

References

- **Dr. Ronald Yurko**
  Department of Statistics & Data Science
  Carnegie Mellon University
  5000 Forbes Ave, Pittsburgh, PA 15213
  ryurko@stat.cmu.edu

- **Dr. Parijat Dube**
  Courant Institute of Mathematical Sciences
  and the Center for Data Science
  New York University
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