Xiaoyang Wang

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EDUCATION

Drexel University — Philadelphia, PA
PhD Student of Information Science — 2022 - Present
- **GPA: 4.0/4.0**
- **Advisor: Dr. Christopher C. Yang**
- **Research Areas: Health Informatics, Artificial Intelligence Fairness**

University of Pittsburgh — Pittsburgh, PA
Master of Science in Information Science — 2018 - 2020
- **GPA: 3.8/4.0**
- **Advisor: Dr. Peter Brusilovsky**
- **Research Areas: Software Engineering, Data Analysis**

Shanghai Normal University — Shanghai, China
Bachelor of Engineering in Telecommunication Engineering — 2014 - 2018
- **GPA Ranking: 4/90**
- **Advisor: Dr. Bin Wang**
- **Research Areas: Power Control Algorithm, AdaBoost, Network Optimization**

WORK EXPERIENCE

Research Assistant — Philadelphia, PA
Drexel University — September 2022 - Present
- Collaborating with interdisciplinary tea Investigating the impact of artificial intelligence and machine learning on fairness in healthcare applications, with a focus on identifying and addressing potential biases in medical decision-making processes
- Analyzing and interpreting complex healthcare data while adhering to privacy and security regulations

Cloud Software Engineer — Beijing, China
China CITIC Bank — September 2020 - September 2022
- Led the development and enhancement of the company's cloud platform, utilizing modern technologies and best practices to ensure scalability, performance, and reliability.
- Implemented containerization solutions using Docker and orchestrated deployments using Kubernetes, enabling efficient management of market systems and seamless application updates.
- Utilized Java for the development of robust, high-performance backend services and microservices architecture, ensuring optimal system performance and maintainability.

RESEARCH EXPERIENCE

AI Fairness Research in Healthcare
Research Assistant, Shanghai Normal University — September 2022 - Present
- Conducted comprehensive literature reviews on fairness in machine learning, staying up-to-date with the latest advancements in fair algorithms, techniques, and ethical considerations in AI research
- Designed and implemented experiments to evaluate the performance and fairness of various machine learning models and algorithms, analyzing their potential biases and exploring ways to mitigate them

ReGear 2.0: A Regression-Based Gene-level Methylation Estimation Algorithm
Co-author, Health Informatics Lab, Jilin University — February 2021-March 2022
- Propose a regression-based gene level methylation estimation algorithm.
- Proved that gene-level methylation features may be more significantly associated with the class label than the residue-level methylation features.
- Verified our algorithm which required fewer features on 7 datasets and achieved better prediction accuracy than alternative algorithms.

Human Disease Prediction Based on Big Data and Data Mining
Summer Research Assistant, Chinese Academy of Sciences — July 2017-October 2017
- Applied Random Walk algorithm in prediction of drug targets for human disease by utilizing MATLAB

- Implemented a IncRNA-disease prediction method using Random Walk with Restart
- Achieved higher prediction accuracy by proposing and implementing a training method which did not require information about respective IncRNAs

Device to Device Power Control Algorithm Based on Interference alignment
Research Assistant, Shanghai Normal University January 2016-November 2017

- Proposed a power control algorithm based on interference alignment(IA) for D2D network
- Modified all D2D Links to share the available subcarriers simultaneously via IA technique and improved the total sum of D2D rate about 6 bit/S x Hz
- Contributed to the corresponding publication *Device to Device Power Control Algorithm Based on Interference Alignment*

SELECT PROJECTS

Ticket+: Event Search and Ticket Recommendation System

- Developed an interactive web page for users to search events and purchase tickets by utilizing HTML, CSS, Javascript and AJAX
- Improved personalized business recommendation based on search history and favorite records
- Created Java servlets with RESTful APIs to handle HTTP requests and responses
- Built relational and NoSQL (MySQL and MongoDB) database to capture real business data from Ticketmaster API
- Deployed to Amazon EC2 and got tested by Apache JMeter

HappyDriving: LBS based Android App for Smart Driving

- Developed an Android App for users to post and received alerts such as speeding, traffic, and police
- Integrated Google Map API to display the nearby hot alerts and navigate to avoid traffic
- Used Google Firebase to store and manage UGC including comments, images, descriptions, titles, and geolocations
- Improved the UI/UX flow with Animation, ToolBar/ActionBar
- Implemented voice access module which allowed users to post alerts via voice commands

Hermes: A Spring and Hibernate Based Shopping and Ordering System

- Built a web application based on Spring MVC to support items search and listing
- Implemented security workflow via in-memory and JDBC provided by Spring Scurity
- Utilized Hibernate to provide better database operation supports

React JS Based NBA Player Strength Visualization

- Created a dashboard using React, D3 and Ant Design backed by API from stats.nba.com to visualize individual player's shot data, including a shot chart and user profile views
- Created four extra filters and hexbin and scatter shot themes to provide more customized visualization
- Developed an autocomplete player search bar to provide a list of suggest players with images and names

HONORS & AWARDS

- The CITIC Star Award, China CITIC Bank Aug, 2021
- The Pacemaker to Graduate Student, SHNU Jun 2018
- Second Prize of National Undergraduate Electronic Design Contest, Beijing Nov 2017
- Merit scholarship (Top 10%) in 2015-2016 Academic Year, SHNU Sep 2016
- National Endeavor Fellowship, CHINA Sep 2015
- Merit scholarship (Top 10%) in 2014-2015 Academic Year, SHNU Sep 2015

TECHINICAL SKILLS

- System Programming: Java, C++
- Front-End Programming: JavaScript (React, React hooks, D3, Backbone.js), HTML, CSS
- Statistical Analysis: Python, MATLAB
- Database: MongoDB, MySQL
- Cloud Native Technology: Docker, Kubernetes
- Machine Learning Toolkits: Scikit-Learn, PyTorch