XIAOXUAN (SHERLEY) QIN

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USA

Education

Carnegie Mellon University **Pittsburgh, PA, USA**
Visiting Student in Cybersecurity *08/2023 – Present*
- Core Course: Introduction to Cryptography

University of Pittsburgh **Pittsburgh, PA, USA**
Master of Information Science (ongoing) *08/2022 – Present*
- Overall GPA: 3.81/4.0
- Core Courses: Information Security and Privacy (A), Network Security (A), Application of Network (A-), Algorithm Design (A), Machine Learning (A)

Hubei University of Economics **Wuhan, Hubei, China**
Bachelor of Management in Information Management and Information System *09/2017 – 06/2021*
- Overall GPA: 3.78/4.0
- Core Courses: Linear Algebra (88), Business Statistics I/II (Probability) (95/93), Data Structure (91), Java I (85), Java II (A+), Database System (A+), Data Communication (A+), Web Application Development (A+), Mobile Application Development (A)

Research Experience

University of Pittsburgh **Pittsburgh, PA, USA**
Enhancing Neighbor Discovery in Wireless Sensor Networks Using Deep Learning Techniques *04/2023 - Present*
- Explored the use of Multi-Layer Perceptions (MLP) and Graph Convolutional Networks (GCN) to improve the Searchlight Protocol in Wireless Sensor Networks (WSN).
- Conducted comparative analysis of various traditional neighbor discovery protocols, identifying areas for deep learning application.
- Enhanced neighbor discovery efficiency, integrating deep learning into traditional protocols.
- Implemented models in WSNs with edge computing, achieving more accurate and efficient neighbor discovery.
- Analyzed and evaluated the models' performance under different network conditions.
- Participated in regular team meetings and discussions to refine the research approach and methodology.

University of Pittsburgh **Pittsburgh, PA, USA**
On Post-Quantum Key Establishment *03/2023 - 08/2023*
- Focused on enhancing secure data transmission in a post-quantum world using key pre-distribution methods.
- Developed a novel key pre-distribution scheme for mixed post-quantum and pre-quantum secure flows.
- Formulated a probability model to evaluate key match success rates under various pre-distribution scenarios.
- Designed a simulation-driven empirical model ensuring secure key sharing between heterogeneous nodes.
- Introduced two strategies to quickly build secure connections between non-post-quantum nodes and post-quantum networks.
- Collaborated with a team of experts for practical implementation and testing of the proposed models.

Hubei University of Economics **Wuhan, Hubei, China**
An Empirical Study on the Impact of E-commerce Application User Interface Design *02/2021 - 06/2021*
- Investigated the effect of UI design elements and emotional factors on user experience in E-commerce applications.
- Developed a model identifying key factors influencing user satisfaction in mobile UI design.
- Conducted a large-scale survey to validate the research model across a broad demographic.
- Applied statistical analysis techniques to interpret survey data and derive actionable insights.
- Awarded "Outstanding Undergraduate Thesis" for the significant contributions to UI design understanding.
- Presented research findings in academic settings, contributing to the field of Human-Computer Interaction.

Academic Experience

PPG Industries, Inc. **Pittsburgh, PA, USA**
PPG Project based on Machine Learning *03/2023 – 04/2023*
- Developed machine learning models to predict the important property and classify the popularity of paint colors using RGB and HSL color models.
- Trained models using advanced models like Linear Model, Random Forest, SVM, Gradient-Boosted Tree, and Neural Network.
- Tested model performance using RMSE, Accuracy, or ROC metrics, identifying the most effective predictive models.
- Leveraged selected models to identify key variables impacting paint property and color popularity.

University of Pittsburgh **Pittsburgh, PA, USA**
Database System for E-Commerce *10/2022 – 12/2022*

- Designed and implemented an e-commerce database for an online perfume and body-care shopping system.
- Developed customer and manager interfaces using Flask, enhancing user experience and administrative efficiency.
- Enabled secure customer transactions and efficient product management through robust database design.

University of Pittsburgh **Pittsburgh, PA, USA**
Enhancement of Canvas Search Engine *09/2022 – 12/2022*

- Contributed to enhancing Canvas's global search capabilities, enabling detailed search across different modules.
- Implemented both exact and fuzzy search algorithms (BM25), achieving a MAP score of 0.837.
- Refined search results display, significantly improving user experience and satisfaction, with a noted increase in user satisfaction by nearly 50%.
- Conducted usability testing with students and faculty to gather feedback and further optimize search functions.
- Collaborated with the IT department to ensure seamless integration and deployment of the improved search engine.
- Authored a detailed report on the search enhancement process, outlining the methodologies, results, and future recommendations.

Chinese Academy of Sciences **Beijing, China**
Big Data Analysis of Taobao's Singles Day Sales *01/2019 – 02/2019*

- Constructed a Hadoop cluster to manage and process consumer data from Taobao's Singles Day sales.
- Integrated Hive and MySQL for real-time query and information visualization, enhancing data-driven decision-making.
- Quantified and visualized consumer behaviors, preferences, and expenditure levels, aiding in targeted marketing strategies.
- Presented findings in an internal seminar, providing insights for strategic marketing and sales planning.
- Authored an internal case study on the project, documenting key strategies and insights for future reference.

Practical Experience

Hangzhou Xiaomawang Education Technology Co. Ltd. **Hangzhou, China**
Lecturer of Python Programming *05/2021- 05/2022*

- Instructed students in Python programming, covering fundamentals to advanced topics including AI programming.
- Guided nearly 90% of students to achieve Level 3 Python Certificate, receiving high positive feedback.
- Developed and delivered comprehensive course materials, including lectures, practical exercises, and assessments.
- Fostered a collaborative and interactive learning environment, enhancing student engagement and understanding.
- Provided personalized mentorship and support to students, aiding in their academic and professional development.
- Continuously updated curriculum to include emerging trends and technologies in the field of programming.

SAP China **Shanghai, China**
PTA of Intelligent Manufacture Project Group *07/2020 - 09/2020*

- Conducted an in-depth analysis of Dissona's Value Stream Mapping, focusing on customer demand, production, and supply chain management.
- Identified and resolved critical process bottlenecks, facilitating a successful transformation towards an intelligent workshop.
- Designed and implemented robust information systems (CRM, ERP, SCM, MES) to optimize process and resource management.
- Participated in seminars on AI+CRM products, exploring the integration of AI with CRM for enhanced efficiency and risk management.
- Collaborated with a multidisciplinary team, contributing to the development of advanced manufacturing solutions.
- Engaged in continuous learning and application of the latest trends in intelligent manufacturing and digital transformation.

Skills and Languages

Programming Languages: Python, JAVA, R, C, HTML/CSS, JavaScript, LaTeX

Research Tools: NS-3, Wireshark, Nmap, Nessus, Metasploit, Aircrack-ng, Hadoop, MySQL, Hive, SPSS

English Proficiency: TOEFL: 112 (Reading: 28, Listening: 30, Speaking: 24, Writing: 30)

First Language: Chinese (Mandarin)

Awards and Honors

Canglong Student Scholarship (Twice) - Top 10%

Dean Scholarship - Top 5%

Publication:

- "On Post-Quantum Key Establishment" co-authored with P. Krishnamurthy, 2023
- "*Enhancing Neighbor Discovery in Wireless Sensor Networks Using Deep Learning Techniques*", 2023 (In Progress)
- *"The Impact of UI Design of Mobile Electronic Commerce Platform on User Experience: A Case Study of Taobao*", 2021