RAY RUI BIAN

Los Angeles, CA | (302)-415-5277 | bianrui0315@gmail.com | LinkedIn

PROFESSIONAL SUMMARY

Software Engineer with a strong background in data science and a Ph.D. in Computer Systems and Networking. Experienced in building scalable data pipelines and developing AI-driven solutions, with a proven track record in optimizing cloud-based infrastructures. Skilled in Python, Java, and cloud technologies, eager to leverage expertise in software development to drive innovative solutions in a software engineering role.

SKILLS

- **Programming & Data Science:** Python, SQL, C, MATLAB, Java, JavaScript, Bash, Assembly Language, TensorFlow, PyTorch, scikit-learn, NLP, Generative AI, Predictive Modeling, A/B Testing, Spark, Apache Kafka, Airflow, Data Mining, SSMS
- **Cloud & DevOps:** AWS, Microsoft Azure, Google Cloud, Cloudflare, Amazon CloudFront, Docker, Kubernetes, CI/CD, Azure DevOps, FastAPI, Flask, Django
- **Databases & Visualization:** MySQL, PostgreSQL, MongoDB, NoSQL, Microsoft SQL Server, Tableau, Power BI, Seaborn, Matplotlib, ArcGIS

EXPERIENCE

Expatiate Communications | *Data Scientist* **Dec 2022 - Present**

- Designed and implemented data pipelines using automation, reducing data processing time by 90%
- Led development of iTAAP AI product, serving 50+ school districts and impacting 100,000+ students.
- Developed student service tracking models, improving data accuracy and reporting efficiency.
- Built AI-powered school selection tools, aiding parents in making informed education decisions.
- Created a machine-learning-powered chatbot using Python, providing real-time customer support
- Optimized Power BI dashboards, enhancing data visualization and insights generation.

University of Delaware | *Research Scientist– Cybersecurity & Network Security* **Jul 2020 - Dec 2022**

- Conducted a large-scale analysis of **436,000+ open proxies**, revealing malicious activity in 76.42% of them.
- Developed detection techniques for stealthy transparent proxies, identifying new cybersecurity threats and improving network security measures
- Published research in **top-tier journals & conferences** (IEEE INFOCOM, ACM SIGCOMM CCR, Computer Networks).

University of Delaware | *Research Scientist – Internet & Cloud Security* **Jul 2017 - Jul 2020**

- Developed BGP-based machine learning algorithms, achieving 90% accuracy in detecting anycast prefixes.
- Discovered that 19.2% of global anycast prefixes were affected by remote peering, leading to improved strategies for network optimization
- Conducted research on AWS EC2 network security, identifying hidden vulnerabilities in cloud routing, which informed the development of enhanced security protocols

USTC | *Research Scientist– Computer Vision & Imaging* **Sep 2012 - Jun 2015**

- Developed ultralong focal length microlens arrays, resulting in new patents that advanced optical technology
- Built image reconstruction algorithms using compressed sensing and machine learning techniques, improving image clarity and processing speed
- Published multiple papers in Applied Optics and X-Ray Nanoimaging, contributing to advancements in imaging research

EDUCATION

University of Delaware | *Ph.D., Computer Engineering* **Sep 2015 - Dec 2022**

USTC, China | *M.S., Techniques & Applications of Synchrotron Radiation* **Sep 2012 - Jun 2015**

USTC, China | *B.E., Mechanical Engineering & Automation* **Sep 2008 - Jun 2012**

PUBLICATIONS

- Silent Observers Make a Difference: Large-Scale Analysis of Transparent Proxies. IEEE INFOCOM, 2024
- Shining a Light on Dark Places: Open Proxy Ecosystem Analysis. Computer Networks, 2022
- Towards Passive Analysis of Anycast in Global Routing. ACM SIGCOMM CCR, 2019
- Ultralong Focal Length Microlens Array Fabrication. Applied Optics, 2015

AWARDS & RECOGNITION

- **2020 Teaching Assistant - U.S. Cyber Challenge Delaware Summer Camp** | Mentored 100+ students in cybersecurity techniques.
- **2017 Ranked Top 1% in SANS CyberStart Cybersecurity Competition** | 44th place out of 3,935 participants.