




RUI (RAY) BIAN

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PROFESSIONAL SUMMARY

Data Scientist with a Ph.D. in Computer Systems and Networking and **5+ years of experience** in **AI, machine learning, cybersecurity, and cloud computing**. Specializes in **building large-scale data pipelines, predictive modeling, NLP, and network security**. Proven track record in **optimizing AI-driven analytics, leading end-to-end model development, and enhancing cloud-based data infrastructure**. Passionate about leveraging **AI and data science** to solve **complex industry challenges**.

SKILLS

Programming & Data Science

- **Languages:** Python, SQL, C, MATLAB, Java, JavaScript, Bash, Assembly Language
- **Data Science & ML:** TensorFlow, PyTorch, scikit-learn, NLP, Generative AI, Predictive Modeling, A/B Testing
- **Big Data & ETL:** Spark, Apache Kafka, Airflow, Data Mining, SSMS

Cloud & DevOps

- **Platforms:** AWS, Microsoft Azure, Google Cloud, Cloudflare, Amazon CloudFront
- **Tools:** Docker, Kubernetes, CI/CD, Azure DevOps, FastAPI, Flask, Django

Databases & Visualization

- **Databases:** MySQL, PostgreSQL, MongoDB, NoSQL, Microsoft SQL Server
- **Visualization:** Tableau, Power BI, Seaborn, Matplotlib, ArcGIS

EXPERIENCE

Data Scientist | Expatriate Communications | Pasadena, CA | 2022-12 – Present

- **Designed & implemented scalable data pipelines, reducing data processing time by 90%** through automation.
- **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, providing real-time customer support.**
- **Optimized Power BI dashboards, enhancing data visualization and insights generation.**

Research Scientist– Cybersecurity & Network Security | University of Delaware | Newark, DE | 2020-07 – 2022-12

- 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.**
- Published research in **top-tier journals & conferences (IEEE INFOCOM, ACM SIGCOMM CCR, Computer Networks).**

Research Scientist – Internet & Cloud Security | University of Delaware | Newark, DE | 2017-07 – 2020-07


- Developed **BGP-based machine learning algorithms, achieving 90% accuracy in detecting anycast prefixes.**
- Discovered **19.2% of global anycast prefixes were affected by remote peering.**
- Conducted research on **AWS EC2 network security, identifying hidden vulnerabilities in cloud routing.**


Research Scientist– Computer Vision & Imaging | USTC | Hefei, China | 2012-09 – 2015-06

- Developed **ultralong focal length microlens arrays, leading to patented innovations in optical technology.**
- Built **image reconstruction algorithms using compressed sensing & machine learning techniques.**
- Published multiple papers in **Applied Optics & X-Ray Nanoimaging.**

EDUCATION

 **Ph.D. in Computer Engineering** | University of Delaware (2015-09 – 2022-12)

 **M.S. in Techniques & Applications of Synchrotron Radiation** | USTC, China (2012-09 – 2015-06)

 **B.E. in Mechanical Engineering & Automation** | USTC, China (2008-09 – 2012-06)

PUBLICATIONS

1. **Silent Observers Make a Difference:** Large-Scale Analysis of Transparent Proxies (IEEE INFOCOM, 2024)
2. **Shining a Light on Dark Places:** Open Proxy Ecosystem Analysis (Computer Networks, 2022)
3. **Towards Passive Analysis of Anycast in Global Routing** (ACM SIGCOMM CCR, 2019)
4. **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.)