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Christian Bates

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Work Experience

Software Development Intern   **Cantor Fitzgerald**   **June 2024 - Present**
Infrastructure and FMX Exchange   New York, New York

- Developed a program that dynamically generates over 150 real time network diagrams in under 60 minutes. Used python with multithreading and paramiko to retrieve the data. Jinja2 and JavaScript to generate the diagrams.
- Engineered a real time web application that provides a UI to manage the FMX futures exchange. Enabling operations teams to restart core services in seconds and proactively address outages that would otherwise go unnoticed. Leveraged python, flask, and web sockets on the backend, and TypeScript, HTML, and CSS on the frontend.
- Designed, coded, and deployed endpoint troubleshooting web app using python, HTML, CSS, JavaScript, and paramiko. Tool is used globally by our infrastructure teams, enabling anyone to troubleshoot network outages.

Cybersecurity Intern - Co Director   **CCT**   **Jan 2024 - May 2024**
Web Development   Plattsburgh NY

- Developed an internal organizational website to replace our prior "hand written" approach to documentation. Implemented features such as a change log, calendar, and documentation section. Used Flask, SQLite, JavaScript, HTML, and CSS.
- Configured DMZ network on a pfSense firewall to securely host external services for students such as web servers, honeypots, SSH servers, etc.
- Hosted bi-weekly technical workshops for students at SUNY Plattsburgh. Workshops consisted of hands on experience such as configuring virtual machines, password cracking, and open source firewall configurations.

Full Stack Web Developer   **Fiverr**   **Jan 2024 - June 2024**
Freelance   Remote

- Collaborated with clients to gather requirements and ensure project alignment with their needs, managing projects from inception to deployment.
- Met one on one with clients to translate their ideas into technical requirements. Continuously communicated them throughout the development process ensuring client satisfaction. Retained a 5 star rating.

Information Technology Intern   **Ballston Spa National Bank**   **May 2023 - Feb 2024**
Information Technology   Ballston Spa NY

- Developed interactive webpage of the roadmap for the IT department using Sharepoint and MS Project
- Configured and deployed UPS network cards so they could be managed and monitored using SNMP

Projects

Honeynet Distributed System

- Engineered an on site kubernetes cluster with kubeadm to host microservices and implemented monitoring services such as prometheus, ELK Stack, and grafana. Implemented metallb load balancer and calico network policies.
- Configured custom TCP Dump and Socat TCP socket server. Coded TCP socket client in python to connect to the pod for real time packet monitoring.
- Elected as a speaker to present at the **6th Annual North Country Cybersecurity Conference** discussing the architecture of a honeynet and how it provides value to your business.

Technologies and Languages

- **Languages:** Python, JavaScript, HTML, CSS, Java, SQL
- **Technologies:** SQLite, Postgres, AWS, Docker, Kubernetes, Bash, Linux, Flask, Node JS, Git, ELK, TypeScript
- **Security Tools:** pfSense, Security Onion, Scapy, TCPDump, Wireshark, Kali, Socat

Education

- **BSc:** Management Information Systems | **Minor:** Computer Science   **Expected May 2025**