Jacky Zhang

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EDUCATION

Champlain College — **August 2021 – Expected June 2025**
Bachelor of Arts in Computer Science, Minor in Data Science - 3.7 GPA — *Burlington, VT*

EXPERIENCE

HeadStarter AI — **July 2024 – September 2024**
Software Engineer Fellow — *New York, NY*
- Spearheaded end-to-end project development impacting **1,000+** users, achieving a **40%** reduction in load time and enhancing performance with **MVC** design patterns.
- Engineered five applications leveraging **Next.js**, **Pinecone**, and **Stripe API** to focus on backend solutions.

KORE Power — **May 2024 – August 2024**
Software Engineer Intern — *Waterbury, VT*
- Pioneered an interactive dashboard using the **LAMP** stack, reducing NOC response times by **15%** with geohash-enhanced log data visualization.
- Restructured a voltage analysis pipeline, uncovering trends that reduced operational costs by **10%**.
- Launched a streamlined **ETL** process, refining data accuracy and speeding up analysis workflows by **20%**.
- Created an **MLM** to analyze NOMAD data, boosting SOC report accuracy by **60%** using **random forest**.

CoreMap Medical — **February 2024 – July 2024**
Sotware Engineer Intern — *Burlington, MA*
- Increased spatial resolution for atrial fibrillation analysis by **25%** through **C++** and **Python** development.
- Refactored **C#** code, optimizing workflow by **30%** through error handling and resource management.
- Contributed to the VisibleEP heart model development, increasing real-time student interaction by **15%** with simulated electrograms.

Leahy Center for Digital Forensics and Cybersecurity — **August 2023 – February 2024**
Software Engineering Intern — *Burlington, VT*
- Led the database team to optimize scalability by **10%** and implement robust, industry-standard solutions.
- Built and optimized the front-end of the Leahy Center website using **Python** and **TypeScript**, improving load time by **20%** and enhancing user engagement metrics by **15%**.
- Authored comprehensive technical documentation, improving project handover efficiency by **15%**.

The University of Vermont Medical Center — **March 2020 – November 2022**
Hospital Volunteer — *Burlington, VT*
- Assisted staff in coordinating schedules for **50+** patients weekly, improving workflow efficiency.
- Decreased queue time for hospital staff by addressing patient needs proactively, reducing patient wait times by **25%** and improving service efficiency through optimized use of hospital management systems.
- Volunteered **200+** hours, assisting staff with troubleshooting basic technical issues on patient-facing systems, adapting and committing to improving the user experience.

PROJECTS

JP Morgan Chase Dashboard Clone
- Recreated JPM's trading dashboards to analyze **100+** stock trends, boosting investment returns by **15%**.
- Implemented JPM's Perspective library and **Monte Carlo** simulations with **Black-Scholes**, achieving a **10%** accuracy increase in pricing American and European options across **50+** scenarios.

Discord Lounge Bot
- Generated and monetized a custom Discord music bot using Python, achieving **$3,600** revenue in **12 months** through **Stripe API** integration, marketing strategies, user engagement, and paid features.
- Devised a warning system with automated kick and ban functions to manage member infractions.

TECHNICAL SKILLS

Languages: Java, Python, C/C++, SQL, JavaScript, TypeScript, HTML, CSS, Bash/Shell, Markdown, LaTeX
Libraries/Frameworks: React, Flask, Angular.js, Pandas, TensorFlow, PyTorch, Scikit-learn, XGBoost, Matplotlib, Next.js, TailwindCSS, Node.js, MongoDB, NumPy
Developer Tools: Git, GitLab, Linux, Google Firebase, Git, VS Code, Jupyter, Visual Studio, Vim, IntelliJ