John San Juan

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WORK EXPERIENCE

Python Developer Intern June 2024 - Aug 2024
Lawrence Berkeley National Laboratory (National Center for Electron Microscopy)
Berkeley, CA

- Developed and optimized Python software for **crystal segmentation and clustering** using **nanobeam electron diffraction data**.
- Utilized **NCEMpy**, a library developed by the National Center for Electron Microscopy (NCEM), to automate the analysis of diffraction patterns and streamline data processing workflows.
- Applied **advanced image processing techniques**, such as **Gaussian filtering** and **k-means clustering**, increasing the segmentation precision by 30%.
- Collaborated with a multidisciplinary team to integrate software tools with existing laboratory infrastructure, enhancing workflow automation and data processing capabilities.

Full Stack Web Developer Sep 2023 - Present
XConnect-Global *Santa Cruz, CA*

- Engineered and maintained robust backend systems using the **Django Framework** and **PostgreSQL** to support scalable **Platform-as-a-Service (PaaS)** solutions.
- Incorporated **Tailwind CSS** and **React** for frontend development, creating dynamic and responsive user interfaces that improved engagement and usability.
- Managed deployment and scaling of web applications using **AWS EC2** and **Gunicorn**, ensuring high availability and robustness of services.

Tech I May 2022 - Dec 2023
Revivn, Inc. *San Leandro, CA*

- Performed complex repairs such as **logic board rework**, addressing component-level issues to extend the lifespan of high-value devices.
- Utilized **BASH scripting** to automate data processing workflows, improving efficiency by 50% and reducing manual workload.
- Trained junior technicians on specialized repair techniques, including logic board repairs and hardware diagnostics, fostering a collaborative and skill-enhancing work environment.

PROJECTS

Reddit Sentiment Stock Analysis Aug 2022 - May 2023

- **Leveraged** open-source repositories from GitHub to build a Python-based application for **scraping** and **analyzing sentiment** from Reddit posts on stock market trends.
- **Applied VADER sentiment analysis** and integrated machine learning models to analyze trends and predict top-performing stocks based on Reddit discussions.
- **Achieved a 70% accuracy rate** in identifying top stock predictions, demonstrating proficiency in **data analysis**, **sentiment analysis**, and **predictive modeling** techniques.

SKILLS

Technical Skills	Git, Data Structures, Linux, PuTTY, Visual Studio, CLion, Cloud 9 AWS, GNU, Google Cloud Flask, Django, AWS EC2, SQLite, TailwindCSS, Jupyter, FPGA, Logisim, LogicWorks, Magic VLSI, IRSIM
Languages	Python, C, C++, HTML, CSS, JS, LaTeX, Bash Shell, MIPS Assembly
Soft Skills	Communication, Teamwork, Flexibility, Problem-Solving, Researching, Accountability

EDUCATION

Computer Engineering, **Bachelor of Science,** California State University, East Bay Expected 2025
Natural Science: Math and Technology Emphasis, **Associate of Arts,** Ohlone College 2021

CONTINUING EDUCATION

Berkeley Labs WDE Internship Preparatory Workshop Jan 2024