Jennifer Chiang

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EDUCATION

California State Polytechnic University, Pomona   Pomona, CA
Bachelor of Science in Computer Science   *Aug. 2017 – May 2021*
                                                                          Magna Cum Laude

TECHNICAL SKILLS

Languages: Javascript, Python, Java, NoSQL (MongoDB), HTML/CSS
Frameworks: React, Node.js, Flask, Express, Vite
Developer Tools: Git, Jira, Figma, VS Code, JetBrainsIDE (PyCharm, IntelliJ, WebStorm)

EXPERIENCE

Project Lead   July 2022 – Present
NASA Jet Propulsion Laboratory (JPL)   *La Cañada Flintridge, CA*

- Delivers emergency software fixes for critical production systems such as (DNS registration self-service, DSN dashboards, Loadbalancing as a service, and mission dashboards) mitigates service interruptions, ensuring minimal downtime and rapid resolution of issues.
- Lead development for multiple high-impact web applications, including network monitoring dashboards, SSL certificate automation tools, and health checkers, improving system efficiency and reducing operational workload by 40%.
- Designs and implement role-based access controls for custom web applications, improving security and user management across multiple tools.
- Spearhead SSL automation tool project, working with NASA's cybersecurity team to create and deploy a solution for Cisco devices, supporting lifecycle management of certificates and system restarts.
- Manage full software development lifecycle for multiple projects, from requirement gathering and planning to deployment and support.
- Work with business stakeholders to translate complex business needs into technical solutions, focusing on data analysis and visualization, network monitoring, and enterprise-level software applications.

Software Engineer/Development Technical Lead   June 2021 – July 2022
NASA Jet Propulsion Laboratory (JPL)   *La Cañada Flintridge, CA*

- Primary developer on project building according to guidelines and specs from PM.
- Built a centralized network inventory combining information from various network tools. Unified and created a standardized inventory tracking all devices on the network.
- Created a self service MAC Address registration page going hand in hand with the gatekeeper project. Blocked unauthorized devices from the network.
- Independently setup automation for Jira and Github integration within the team so that Github commits will be tracked within Jira. This increased transparency on tickets between engineers and stakeholders.

PROJECTS

SSL Lifecycle Management&Automation Tool | *Python, CyberArk*   November 2022 – Present

- Present through full lifecycle of project for SSL certificate automation from beginning to end, since the requirement gathering, meeting with icam, cyber, in order to create a tool that meets NASA requirements that the lab can utilize.
- 100%, Full automation of SSL certificate change on Cisco Unified Communications Manager (CUCM) involving Tomcat and Expressway devices
- Handles the complete lifecycle: cert creation/renewal, upload to Cisco, system restart
- Provides cost savings via automation of redundant task that takes time away from engineering and supporting lab success. Automatically deletes expired and old certificates which takes up space in the internal database, resulting in additional cost savings to the company as well as improving data integrity.
- Increases productivity freeing up engineers to work on other tasks. Prevents application outage, and user impact with automatic renewal of certificate.

Nettools2 Health Checker | *Javascript, SSO, MongoDB*   September 2021 – Present
* Broad overview visualization for network device health, with resulting compliance checks and detailed table and grid view of devices based on tests passed/failed
* Design and build first role base access web application within the team with content changing based on user LDAP permissions.
* Custom script runner tab to run team python scripts to be applied to the network.
* Enhance performance and availability of network services by providing compliance check capability for configuration of network infrastructure by ensuring that it matches network standards.
* Develop a foundational platform to modernize and consolidate operational tools for the network.
* Allows network to be agile, and flexible responding to mission and user needs. Prevents and reduces network outage, and performance degradation increasing productivity and network resilience.

Mission Dashboards | *HTML, CSS, Javascript, MongoDB*   2020 - Present
* Visualization dashboard supporting NASA missions during EDL (Entry, Descent, and Landing), provides ops chiefs and stakeholders a method to track, monitor, and gain insight on mission network traffic as well as network appliances.
* Missions include (Mars2020, Nisar, Psyche, Europa Clipper, EOMOC) as well as overall DSN monitoring.
* NASA missions often involve collaboration across diverse teams including engineers, scientists, project managers, and external contractors. Dashboards act as a unifying interface that provides all stakeholders with a shared understanding of mission status. This enhances communication and coordination among teams.
* Predicting and preventing failures not only increases mission success rates but also reduces the financial impact of mission delays, equipment replacements, or additional troubleshooting. Proactive risk management leads to cost savings and improved mission ROI.
* Transparency through dashboards fosters trust and credibility with stakeholders. By showcasing JPL's ability to monitor and control mission operations efficiently, the company is more likely to secure future funding, maintain positive public relations, and strengthen partnerships with other space agencies.

WebVPN | *HTML, CSS, Javascript, Palo Alto*   April 2024
* Wrote code to replace Browserras webpage for company VPN. Customized the Palo Alto pages with JPL guidelines for login, logout, landing page.
* Addressed Ivanti Pulse vulnerability (critical security vulnerability) that the lab needed to mitigate.
* Protected and prevented mission, Caltech, United States government information, and NASA data from the exploitation of foreign entities and other bad actors.
* Increased Productivity by enabling remote users and workers from different countries/states to continue their work securely.
* Provided cost savings via prevention of outage of VPN. Consequences include loss of thousands of workers being unable to connect and fulfill their contractual obligations. Enabled JPL to fulfill their contractual obligation to NASA.
* Provided redundancy for foreign nationals as well as users unable to connect to GlobalProtect. Mitigating a single point of failure for VPN usage.

Network Inventory Diff | *HTML, CSS, Javascript, SSO*   April 2021 - 2023
* Unified dashboard view of network data across multiple institutional tools (Aruba, EM7, Akips, Nautobot, NetUI, Jim's script)
* Provides visibility to mismatched records as well as records missing in the database across the network comparing based on hostname, model, and ip address.
* Saves engineers and supervisor from visiting 5 different gui's and checking a csv script in order to get the information they need on network inventory.
* Enabled completion of network access control (NAC) deployment in fulfillment of JPL's obligation under Continuous Diagnostics and Mitigation (CDM) program and NPD2540.1, and provides JPL more robust cybersecurity posture by protecting against unauthorized devices connecting to JPL networks.