Arselan Alvi

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- Knowledge of modern techniques in Systems Software, Object Oriented Programming/Design and Web Development.
- Experienced with Linux Kernel programming, Software Development Engineering and System Integration.
- Proficient with Mesa programming, usage/development of Vulkan / OpenGL API and Power and Performance tools.
- Skilled in backend programming with Python, Java, PHP; frontend design with HTML, CSS, JavaScript.
- Knowledge of TCP/IP protocols, SMTP, OSI layer, SSL/TLS, routing protocols and server debugging techniques.
- Efficient at solving complex technical problems using Troubleshooting, Testing, Debugging, and Algorithm Design.

WORK EXPERIENCE

***Chrome System Software Development Engineer**, Full-time,* Intel Corp., Santa Clara, CA 95054 02/07/2022 – Present

- Worked on Chrome OS distribution of Linux Kernel with focus on graphics, gaming, media and display driver components.
- Debugged and root caused complex GPU hang issues on Linux Kernel with i915 (legacy) and Xe driver (newer) platforms.
- Created and shared various debugging techniques to enable Steam Gaming for the first time on Chrome which allowed users to play high-end games on ultra series 1 Chrome platforms. MeteorLake Chromebooks remains the first Intel platform officially released with the support for local Steam gaming.
- Led the Graphics domain for newer Intel Xe driver Chrome based platforms (core Ultra series 3+) . Directly worked with customer-Google to ensure bugs, enablement of feature requirements, relevant patches are in place.

***Software Engineer Intern**, Internship,* Intel Corp., 2200 Mission College Blvd, Santa Clara, CA 95054 02/16/2021 – 12/14/2021

- Built an automated debug tool to investigate regression issues in OS which highly accelerated debugging efficiency.

SKILLS & TECHNOLOGIES

Programming: Python, Linux/C, C++, Java, Go, PHP, HTML, CSS, JavaScript
Databases: MySQL, SQL Server, SQLite, DB2, AWS.
Operating Systems: ChromeOS, UNIX/Linux based systems, Windows, Android AOSP based systems, iOS.
Dev Tools: Python Flask, Git, Git-copilot, Perfetto, SocWatch, Postman, Chrome Dev tools, Visual Studio, Android Studio, JUnit.

EDUCATION

MS in Software Engineering, San Jose State University, San Jose, CA 09/10/2019 - 12/15/2021

- Courses in computer network design, software systems, network programming, virtualization technologies, system software architecture, software development life cycle, computer architecture, Android app development and IoT.
- Completed projects in Linux Kernel, Android smartphone applications, cross domain web applications, cloud services.

BS in Software Engineering, San Jose State University, San Jose, CA 08/24/2016 - 05/22/2019

- Courses in data structures & algorithms, software engineering, databases, web design, computer architecture, computer networks, information security, server-side programming, object oriented programming, operating systems.
- Completed projects in OOP, gaming development, full stack web apps, algorithms.

PROJECTS

GPU Hang Analysis (Linux), Intel Corp.

- Performed multiple GPU hang analysis on Linux Kernel by capturing and decoding error logs, creating/validating Kernel and mesa patches. Experienced with igt gpu tools, drm devices data structures, kernel architecture, interactions between KMD and UMD components.

Federated Learning for Medical Institutions, MS at San Jose State University

- Developed a software prediction tool to achieve predictions on multiple healthcare datasets simultaneously without looking at the data and maintaining privacy by implementing the concept of Federated Learning.
- Utilized healthcare datasets retrieved from health-data website and python to build the Federated ML model.

Automation Tool, Internship at Intel Corp.

- Debugging regression is time consuming for an engineer. The tool will automate the debugging process by performing automated bisection on ChromeOS images to find the regressed image version. This tool saves up to ninety percent of engineers time.
- Implemented a full stack UI for tool using python and flask as backend and HTML, CSS, Javascript as front end and deployed the tool on Linux server. Presented the tool to various teams across the organization and received positive feedback.

Plagiarism Checker, BS at San Jose State University

- Built Java J2EE anti-plagiarism app which scans file and compares with original file based on number of words.

AWARD

Intel Corp.

- As an intern, received certificate for demonstrating Intel value "**Customer Obsession**" for creating the automation tool which saves great amount of engineer's time and provides more bandwidth for new innovations.
- Received certificate for demonstrating Intel value "**Fearless Innovation**" for working with my team and being a part of cross organizational effort between Intel and Google to enable Intel graphics IOMMU which played key role in Google's release of the borealis VM for steam gaming on IA Chrome devices.