Urjasvi Suthar

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EXPERIENCE

USDKIT | Software Developer Intern | Link
Sep 2024 – May 2025 | Remote

- Codebase consisted of C, Objective C (ObjC), Metal GAPI and Pixar's USDA file format.
- Worked on text rendering and implemented multiple methods on CPU/GPU, like Blinn-Loop, Ray-Curve and Ray-Line.
- Researched on improving font legibility and dynamic re-sizing.
- Implemented NURBS surface using Mesh Shaders.
- Implemented different animation techniques (on CPU and GPU): Caches, Transforms and Skeletal Animations (LBS and DQS).
- Animation techniques were validated by comparing against industry standard softwares like Blender and Maya.
- Utilised dev tools like Instruments, LLDB, XCode's graphical debugger and custom SVG exports, to find and debug problems.

REALITYBOB | Software Developer Intern | Link
June 2023 – Feb 2024 | Remote

- Worked on porting C++ and Dawn codebase to Web, including custom JS and C++ code to bridge gap between stdlib and web technologies.
- Worked with web technologies like WASM, WebGPU and IndexedDB.
- Documented porting process and usage of various techniques encountered along.
- Worked independently and alongside seasoned industry member.
- Studied feasibility of porting C++ graphics application to Web for long-term.

EXTRACURRICULAR

CLUB ENIGMA | Computer Graphics Lead
Aug 2023 – July 2024 | IIITS, Sri City

- Taught juniors about computer graphics, it's concepts and various rendering techniques.
- Started multiple projects under multiple domains. Guided juniors on their projects and also worked along side them on some.
- Conducted various sessions, industry guest talks and major events under the club.

PROJECTS

ZIGCPURASTERIZER | CPU Rasterizer written in Zig | Link

- Implemented rasterization pipeline: vertex transformation, edge functions, depth testing and texture sampling.
- Achieved real-time performance with 15x speedup through algorithmic improvements (AABB, backface culling) and data structure redesign.
- Built custom .obj parser with SOA memory layout optimization for cache-friendly vertex processing, it reduced time by 1.15x.
- Integrated advanced features like shadow mapping and procedural geometry generation.
- Documented optimization journey with detailed performance analysis and profiling results.

EDUCATION

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, SRI CITY
Bachelor of Technology in Computer Science
Graduated 2nd Aug 2025 | Sri City, Andhra Pradesh

SKILLS

PROGRAMMING

Experience:
C • ObjC • C++ • Python
Non-Experience:
Zig

TECHNOLOGY

Metal • OpenGL • WebGPU • GLSL • AArch64
• LLDB • GDB • XCode • Instruments • MacOS • UNIX • WASM •
Git/Github • Linux • CMake • Jira

TOPICS

Computer Architecture • Compiler Enginnering • Graphics Programming • Debugging • Performance Analysis • Data Structure And Algorithm

LINKS

Github:// **BlackGoku36**
LinkedIn:// **Urjasvi Suthar**
ArtStation:// **blackgoku36**
Website:// **BG36Notes**