

Dushyant Shukla

Graphics & Engine Programmer

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Education

M.S. in Computer Science, DigiPen Institute of Technology

April 2021

Redmond, WA, USA

B.Tech. in CSE, Dr. A.P.J Abdul Kalam Technical University

May 2015

India

Skills

Programming C++ (11/17), C, Core Java

Graphics API OpenGL, Vulkan

Cloud Technologies AWS, Amazon Alexa, Google Cloud, Dropbox APIs

Tools/Packages Linux, GIT, Jira, JUnit, Maven, Gradle, Premake, npm, MS Visual Studio, Eclipse IDE, IntelliJ IDEA

Certifications

- **Oracle Certified Associate - Java SE8 Programmer**
- **AWS Certified Developer - Associate**

Projects

Voyager Graphics Renderer

Redmond, WA, USA

Graphics Programmer(Vulkan, GLSL, C++ 11/17) | 📄 Github

Sept. 2020 - Till Date

- Implemented a walk cycle simulation using keyframe animation for representing motion along a curve.
- Implemented a cloth simulation.

Advanced Real-Time Rendering Techniques (DigiPen Institute of Technology)

Redmond, WA, USA

Graphics Programmer(OpenGL, GLSL, C++ 11/17)

May. 2020 - Aug. 2020

- Implemented Deferred Shading with support for approximately 3000 dynamic lights.
- Implemented Moment Shadow Mapping for rendering soft shadows.
- Implemented PBR and IBL using a physically based BRDF for mimicing realistic lighting.
- Implemented Screen Space Ambient Occlusion for approximating indirect lighting.
- Implemented the Bloom post-processing technique to get a glow-like effect.

Age of Empyryon, Advanced Game Project (DigiPen Institute of Technology)

Redmond, WA, USA

Game Engine & Gameplay Programmer(C++ 11/17) | 4 member team | 📄 Github

Jan. 2020 - Apr. 2020

- Engineered a type-safe, cache efficient ECS to handle large amount of game data at run-time using C++ Templates.
- Developed a type-safe event system based on a pub-sub design pattern for inter-system communication using C++ Templates.
- Implemented an inventory system, and a highly configurable skill-system using virtual inheritance. The skill-system allows for various exciting combinations of individual player skills for enhanced gameplay experience.

Take Me Home, Game Project (DigiPen Institute of Technology)

Redmond, WA, USA

Game Engine, Graphics, Physics & Gameplay Programmer(C++ 11/17) | 📄 Github

Nov. 2019 - Dec. 2019

- Implemented a custom engine with ECS architecture, and a 2D renderer with hardware accelerated graphics in OpenGL.
- Implemented 2D platformer physics, collision detection with impulse based collision-resolution.

Professional Experience

SenecaGlobal IT Services Private Limited

Hyderabad, India

Technical Analyst

Apr. 2019 - Jul. 2019

- Engineered distributed, multi-tiered server-side applications for a digital asset management system using AWS, Spring Boot, Dropbox APIs, and Serverless Framework. This product helped the client to **reduce the cost and time to service their customers by 50%**.

Senior Software Engineer

Apr. 2017 - Mar. 2019

- Spearheaded development of data-integration channels for a digital asset management system to syndicate CPG data to-and-from platforms like **Amazon, Google, Walmart, Target, and Kroger** using AWS, Spring Boot, Core Java, and the Serverless Framework.

Software Engineer

Spt. 2015 - Mar. 2017

- Nominated for the company's prestigious **Annual Entrepreneurship Award** for designing an innovative Alexa skill to voice-enable an IoT device, collaborated across teams, inspiring the development of several Alexa-powered IoT solutions for clients.
- **Reduced manual testing effort by 95%** by engineering a test-automation tool for server-side APIs using Core Java, and Spring Boot.

Teaching

Object-Oriented Design & Programming (C/C++)

Redmond, WA, USA

Graduate Teaching Assistant, DigiPen Institute of Technology

Sep. 2020 - Dec. 2020