

# Sidd Gupta

Full Stack Developer | Passionate About User-Centric Design

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Erie, Colorado

## Skills

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**Languages:** TypeScript, JavaScript, HTML5, CSS, SASS, SCSS, SQL, C, C++, C#, Lua, XML, JSON, PHP

**Tools/Frameworks:** React, Redux Toolkit, Webpack, Angular, Yarn, npm, NodeJS, i18next, Jest, React Testing Library, VS Code, Visual Studio, Git, GitHub Actions, TeamCity CI/CD, Figma, ConfigCat, Jira, Docker, Kubernetes, AWS, Microsoft Azure, Storybook, MSSQL

## Work Experience

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### MakeMusic, Inc

Adapted to major technology pivots while focusing on improving software architecture and processes, enabling the team's ability to deliver better products.

Software Engineer – Finale, Compose, and Sight Reading Studio

Apr 2021–Aug 2024

- Led cross-functional teams as Engineering Manager, driving the implementation of key product enhancements and improving user interface components.
- Updated Compose and Sight Reading Studio from Ember.js to **React** with **Redux Toolkit** in **TypeScript**.
- Evaluated the scope, risk, and feasibility of new features in collaboration with the Product Manager to ensure successful implementation that benefited 5,000+ active monthly users.
- Collaborated with the Product Designer to develop and integrate effective, accessible, and user-friendly **UI solutions**, resulting in a 10% increase in user engagement.
- Architected app-wide systems, including a localization framework, a user notification system, and a robust error handling solution for critical failures.
- Contributed reusable components to an organization-wide **design system**.
- Defined and revised **REST APIs** for integrating with MusicArchitect, our in-house music notation engine, reducing integration time by 20%, benefiting both internal and external partners.
- Refined a 30+ year-old **C++** codebase for Finale, reducing legacy code by 10%, improving performance by 20%.
- Owned and documented the process for product updates which was managed via **AWS**, coordinating with 3rd party vendors to ensure timely global releases.

### Energy & Geoscience Institute

Sole developer responsible for processing massive amounts of raw data and delivered digestible results that enabled institute-critical research by petroleum geologists.

Lead Software Developer – iCORDS and EGIconnect

Nov 2019 – Oct 2020

- Updated internal infrastructure to better survive catastrophic failures by replacing a monolithic on-premises server with a **Docker + Kubernetes** based solution to enhance reliability.
- Assessed the OSDU platform, a data sharing platform built specifically for the energy sector, and adapted iCORDS functionality into it.
- Migrated critical **SQL** functions to a **JSON** file-based system on **AWS**, improving data retrieval times by 30% for end-users.

Software Developer – iCORDS

May 2016 – Nov 2019

- Managed and processed data from 30,000+ offshore wells, with 2,500+ data types, for an international research community of over 200 users via **SQL**.
- Optimized **Microsoft Azure SQL Database**, increasing query performance by 15%.
- Utilized end user feedback to identify and implement features and fixes, in **C#** and **JavaScript/AngularJS**.

### Tiered World Studios

Built SPAs to aid low-income Hispanic families make educated lifestyle choices.

### Lead Engineer – *Untitled Recipe Game and Padre a Padre*

Sep 2015 – May 2016

- Created app framework using **C#** in the **Unity** engine for an unreleased **mobile AR** recipe game.
- Developed and iterated on **SPA** infrastructure for Padre a Padre.
- Collaborated on design challenges and risk mitigation strategies with interdisciplinary teams.

### Retro Yeti Games

Using new, cutting edge game engine tech, developed a game from prototype to full release on Steam.

### Lead Engineer – [404Sight](#)

May 2014 – May 2015

- One of the first winners of Unreal Development Grant, in 2015.
- Optimized final product with a total reduced game size of **90%** and large increase in performance within **Unreal Engine 4** by iterating on the basic building blocks used throughout.
- Integrated **Valve Steamworks SDK** with Unreal Engine 4.
- Led a team of engineers through the use of consistent code workflows and reviews.

### Gameplay Engineer – [404Sight](#)

Jan 2014 – May 2014

- Established pipeline/workflow for the team on **Unreal Engine 4** release day, and engaged with the community during the first year of the engine's availability.
- Collaborated with creative leads to implement and iterate core gameplay features.
- Implemented data analytics system to allow design to analyze issues or improvements to user experience.

### [Therapeutic Games and Apps Lab](#)

Collaborated on small cross-functional teams to quickly deliver complete experiences for clients.

### Gameplay Engineer – *Arches Health Insurance (Save Your Bacon) and HSIR (researchr)*

May 2014 – Dec 2014

- Iterated on design of **SPAs**, and implemented core UI and RNG based features.
- Developed UI systems to gather demographic information using **HTML** and **JavaScript**.
- Created profile pages and search functionality for a social networking system aimed at medical professionals in **PHP**.

### Personal Projects

#### 3D Game Engine

Aug 2013 – May 2015

Fully functional 3D Game Engine made in **C++** with the following features:

- Implemented collision detection and resolution with Axis-Aligned Bounding Boxes, enabling physics-based movement.
- Implemented 3D rendering via **DirectX 9**.
- Engineered a robust memory manager that efficiently handled the creation and deletion of dynamic objects, eliminating memory leaks.
- Created an asset pipeline to allow materials, meshes, and shaders to be loaded in on demand.
- Customized asset pipeline to allow creation/editing of assets and modify settings outside the engine via **Lua** integration.
- Programmed messaging and debugging systems to communicate between objects and easier access to debug information.
- Incorporated **RakNet** for networking support between multiple instances of the game.
- Integrated **Fmod** for ambient and directional sound.

#### AI Behaviors

Aug 2014 – Dec 2014

Learned and implemented multiple **AI** algorithms in **Unity**:

- **Reynold's steering behaviors**, for autonomous movement.
- A **minimax algorithm** using AI, for a game of Tic-tac-toe.
- A capture the flag game with **finite state machines** and **behavior trees** for a human and five AI players.
- A point collecting AI bot that gets better by utilizing a **genetic algorithm**.

### Education

#### University of Utah

Aug 2013 – May 2015

Master of Science in Computing – Entertainment Arts and Engineering