Shikhar Bind

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B.Tech - Electrical and Electronics Engineering
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EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech.	Indian Institute of Technology, Guwahati	7.91 (Current)	2020-Present
Senior Secondary	CBSE Board	85.6%	2019
Secondary	CBSE Board	9.6	2017

EXPERIENCE

- **Parallax Labs** *Apr. 2023 - Jul. 2023*
  XR Developer Fellowship Mumbai, India
  - **Angioplasty Simulator**, Developed an immersive Angioplasty VR Simulator using **Unity**, enabling medical professionals to practice angioplasty procedures in a realistic virtual environment. Implemented player movement and user interface in virtual reality using **SteamVR**. Created a spline system for simulation of human arteries and various shaders using **Shader Graph**.
  - **Visual Accessibility Toolkit**, Developed a Visual Accessibility Toolkit to simulate colorblindness for developers and make a color correction filter for colorblind players using **HLSL** and **Unity**. Created a custom editor and window for the toolkit.
  - **Tech Stack:** Unity, SteamVR, Shader Graph, HLSL

PROJECTS

- **Campus Rush** *Oct. 2021 - Feb. 2022*
  Coding Club, IIT Guwahati Github | Itch.io
  - Ideated and developed a playable *virtual recreation* of IIT Guwahati with **1500+** downloads in a team of 10 members.
  - Programmed game mechanics, scoring system, player movement, animation, and UI in **Unity Game Engine** and **C#**.
  - Created authentication system and realtime leaderboard using **MySQL** database and **PHP** APIs, enhancing user experience.
  - Implemented real-time gameplay synchronization between players over network connections using **Unity Netcode**.
- **Scotch Game Engine** *Mar. 2023 - Present*
  Personal Project Github
  - Designed and implemented a *2D game engine* using **C++** and **ImGui** on which an interactive software can be developed.
  - Implemented *graphics renderer* with **OpenGL**, optimizing performance for visually appealing scenes.
  - Integrated **GLM**'s mathematical functions to handle physics calculations such as collisions, forces, and simulations.
  - Developed a versatile **entity-component system** to manage game objects and behaviors efficiently.
- **Chess 2D** *Aug. 2023 - Present*
  Personal Project Github | Itch.io
  - Collaboratively developed a cross-platform multiplayer *2D chess* game using **Unity game engine** and **C#**.
  - Designed and optimized chess algorithms for efficient move generation, evaluation, and decision-making.
  - Implemented real-time gameplay synchronization between players over network connections using **TCP sockets**.
  - Created a player matchmaking system to facilitate seamless game setup and enhance player interactions.
- **IITG OLX** *June 2022*
  Coding Club, IIT Guwahati Github
  - Designed and implemented an *e-commerce website* similar to OLX where one can sell or buy products using **Django** framework.
  - Developed user registration, authentication, product listing, and profile management functionalities for seamless UX.
  - Utilized Django's **ORM** to manage the database, ensuring efficient data storage and retrieval.
  - Designed intuitive layout and user interface using **HTML**, **CSS**, and **Bootstrap**.

TECHNICAL SKILLS

- **Programming**: C, C++, C#, Python*, Javascript*
- **Web Development**: ReactJS, NodeJS, ExpressJS, Django
- **Game Development**: Unity Game Engine
- **Database Management**: MySQL, MongoDB
- **Computer Networks**: Socket Programming(TCP/UDP)
- **Miscellaneous**: HLSL, ImGui, Git, Plastic SCM

* Elementary proficiency

KEY COURSES TAKEN

- **Computer Science**: Introduction to Computing, Data Structures and Algorithms
- **Mathematics**: Linear Algebra, Basic Calculus, Probability & Random Processes
- **Miscelleneous**: Control Systems, Embedded Systems, Computer Aided Optimization
- **Coursera**: C# programming for Unity Game Development, Data Structures and Design Patterns for Game Developers

POSITIONS OF RESPONSIBILITY

- **Joint Secretary**, GameDev and Esports Club, IIT Guwahati *May 2022 - Mar 2023*
  - Reinstated and heading **GameDev module** of the club to promote game development culture in IIT Guwahati.
  - Organized a game development beginner course and workshops with **500** participants and led **5** game development projects.

ACHIEVEMENTS

- **XROS Felllowship '23**, Selected as one of **100** fellows among over **10,000** candidates. *2023*
- **Techevince 9.0**, Won **'Best Overall Project'** award for Chiranjeevi among **100** technical projects. *2023*
- **Techevince 8.0**, Won **'Best Overall Project'** award for Campus Rush among **110** technical projects. *2022*
- **Respawn Game Jam**, Secured **2nd rank** among more than **200** candidates in the Game Jam. *2022*

EXTRACURRICULARS

- **Inter IIT Tech Meet**, Participated in IGDC Gamedev challenge of **Inter IIT Tech Meet 11.0**, IIT Kanpur. *2023*
- **Coordinator**, Worked on club projects as coordinator of Coding Club, IIT Guwahati. *2021-22*
- **Cepstrum Webops**, Worked on the Cepstrum website as a member of Webops team in Cepstrum. *2021-22*