

Besmelh Alshaalan

CAREER SYNOPSIS

- **Computer Graphics & Video Games:** Experience in 3D modeling and video game development with Unreal Engine and Unity, and crafting custom shaders, including photorealistic and toon-shading raytracers using WGSL.
- **AI & Machine Learning:** Completed advanced coursework in Artificial Intelligence, Machine Learning, and Machine Vision.
- **User Research & Product Design:** Proficient in UI/UX design and prototyping for web, mobile, and XR software, in addition to hardware products, emphasizing user research and usability testing for optimal product design.
- **Web & App Development:** Skilled in full-stack web & iOS app development, integrating user research for user-centric solutions.
- **Adaptive Leader:** Demonstrated leadership in diverse environments, guiding teams to innovate and adapt to technological shifts.
- **Global Perspective:** Offer a diverse international outlook to projects, merging cultural insights with inclusive design.

EDUCATION

KAUST (King Abdullah University for Science and Technology)

Thuwal, KSA

Master's in Computer Science; GPA: 3.53/4.0

Jan 2025

University of Rochester

Rochester, NY

Bachelor of Science in Computer Science | Minor in Digital Media Studies; GPA: 3.53/4.0

May 2023

PROFESSIONAL EXPERIENCE

VR Game Development Intern, Upstream Professional Development Center, Saudi Aramco

June 2024 – Aug 2024

- Conceptualized and prototyped educational oil exploration game using Figma, completing ~30% of game development process.
- Developed VR project template with hand tracking to convert existing Oculus projects to Vive Focus 3 projects, in Unreal Engine.

Researcher, Nano-visualization Research Group, KAUST, Thuwal, Saudi Arabia

Jan 2024 – May 2024

- Converting functionality of an existing OpenGL application to WebGPU, for automated camera animations in a molecular biology visualization system, enhancing documentary-style video creation.
- Navigated and contributed to complex GitHub project with submodules, modifying 88 files with 26,557 insertions & 10,701 deletions.

Teaching Assistant, University of Rochester

Aug 2021 – May 2023

- Video Game Development class (Spring 2023), supported students as they develop games in Unreal Engine.
- iOS Mobile App Development class (Fall 2021), helped students as they developed iOS apps in Swift.

Media Tech Intern, NBCUniversal, Los Angeles, CA

June 2022 – Aug 2022

- Created applications to automate intern alumni browsing and business verification, enhancing efficiency.
- Migrated and optimized an Excel sheet to Airtable for better data maintainability and analytics generation.

Tech and Product Intern, Millie Group, New York, NY

May 2021 – Aug 2021

- Finalized the features of Millie's internal website through user research and designed the UI/UX via Figma.
- Developed a PERN Stack (PostgreSQL, Express, React, NodeJS) app, and managed the database through PostgreSQL & AWS.

PROJECTS

Phobigone

Aug 2022 - Dec 2022

VR game application to help users overcome their phobias (fear of the dark, heights, small spaces).

- Designed a scene in Unity depicting a realistic cityscape with 3D building, animated objects, and collectable items.
- Evaluated the quality, effectiveness, and efficiency of the app through usability testing.

BalanceBuddy

Jan 2022 - May 2022

Website (prototype) to balance between students' schoolwork & internship search process through daily tasks & progress dashboard.

- Conducted user research, designed prototypes in Figma and performed usability testing for the working prototype.
- Developed the back-end of the webpage and Chrome extension using React, and set up a MongoDB database.

EXTRACURRICULAR ACTIVITIES

ShenTech Entrepreneurship Bootcamp, InnoX Academy, Shenzhen, China.

Jan 2024

- Recognized as a top project; a shoe-cleaning device, designed by conducting user research, prototyping, and market analysis.

Student Volunteer, SIGGRAPH Asia 2022, Daegu, South Korea

Dec 2022

- Supported the conference's events like the Computer Animation Festival & Emerging Technologies exhibition.

Marketing & Design Team Lead, DandyHacks Hackathon 2022, Rochester, USA

Mar 2022 – Nov 2022

- Lead a team of 4 to design and market publicized content, and utilize Airtable to keep track of tasks and goal.
- Increased participation by 60% (150 total) and project submissions by %277 (25 total) from the previous year.

SKILLS

- Python, C, C++, C#, JavaScript, Java, Swift, React, Three.js, SQL, R, WGSL, WebGPU, OpenGL, Bash, GIT, Numpy, SciPy, sklearn, PyTorch
- Unreal Engine, Unity, Blender, Figma, Adobe Illustrator, Adobe Premiere Pro, Adobe Photoshop
- Adaptability, creativity, problem-solving, leadership
- Native, Arabic; Fluent, English