

Besmelh Alshaalan

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EDUCATION

KAUST (King Abdullah University for Science and Technology)

Thuwal, KSA

Masters in Computer Science

Anticipated Dec 2024

- Relevant courses: *Computer Graphics, Data Analytics, Machine Learning*

University of Rochester

Rochester, NY

Bachelor of Science in Computer Science | Minor in Digital Media Studies

May 2023

- GPA: 3.51; Relevant courses: *Machine Vision, Intro to A.I., AR/VR Interaction Design, Intro to HCI*

EXPERIENCE

Directed Research, Nanovisualization Research Group, KAUST

Jan 2024 – Present

- Converting functionality of an existing OpenGL application to WebGPU, allowing an automatic camera animation as part of a molecular biology visualization system to create documentary-style videos.

Teaching Assistant, University of Rochester

Aug 2021 – May 2023

- Video Game Development class (Spring 2023), supporting 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

- Assisted in enhancement requests, quality assurance testing, user acceptance testing, and rollout of features.

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.

IBM Accelerate Software Apprenticeship, IBM, Virtual

May 2021 – July 2021

- Enhanced the technical and foundational skills needed to succeed in the software development industry.

PROJECTS

WebGPU Raytracer

Nov 2023

Raytracer program implemented using WebGPU Shading Language, with photorealistic and toon-shading rendering.

- Implemented glossy reflection, environment mapping, antialiasing, soft shadows, and motion blur.

Boppity-Bop Lofi

Nov 2022 – Jan 2023

Audio visualizer website, with a relaxing window view (buildings, trees, clouds) that animates to Lo-fi music.

- Developed using React Three Fiber to embed and animate the 3D models designed in Blender on a webpage.

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.

BalanceBuddy

Jan 2022 – May 2022

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

- Conducted user research, designed prototypes in Figma, & 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.

Light Up

Dec 2020 – Jan 2021

An iOS app for brainstorming ideas; it displays random words and has the option to write ideas in "sticky notes".

- Developed using Swift, managed the database with CoreData, published to the App Store and localized in Arabic and English.

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

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- Python, C, C++. C#, JavaScript, Java, Swift, React, SQL, R, WGSL, WebGPU, OpenGL
- Unreal Engine, Unity, Blender, Figma, Adobe Illustrator, Adobe Premiere Pro
- Adaptability, creativity, problem-solving, leadership
- Native, Arabic; Fluent, English