David Köppl, BSc

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Education

Bachelor of Science in Media Informatics and Visual Computing Oct. 2020 – Feb 2024
TU Wien *Vienna*

Maturity Diploma in Electrical Engineering Sept. 2013 – June 2018
Higher Technical College Mödling *Mödling*

Experience

Full Stack Software Developer July 2022 - Present
Cloudflight Austria GmbH *Vienna*

- Led frontend development for a large-scale CRUD web application, standardizing code practices across the team by integrating ESLint, Prettier, and a custom rule set, improving code quality and reducing technical debt
- Optimized backend performance by analyzing and refining Hibernate queries, resulting in a 40% increase in query speed and significantly improving the application's responsiveness for thousands of users.
- Implemented a custom internationalization solution, reducing merge conflicts and accelerating the development timeline by 15%, enhancing the application's global accessibility.
- Revamped the customer file upload process, introducing an intuitive UI that streamlined workflows, reducing user errors by 30% and improving customer satisfaction.

Teaching Assistant Oct. 2021 – Sept. 2022
TU Wien, Institute of Visual Computing & Human-Centered Technology *Vienna*

- Mentored over 400 students, assisting them in mastering core principles in computer graphics and computer vision
- Provided individualized feedback, assisting students with programming challenges through the term
- Introduced Apple's photogrammetry tool "Object Capture" to the course

Light Design Engineer Feb. 2020 – Sept. 2020
Lichtprojekt Aigner & Wöber GmbH *Vienna*

- Executed precise lighting calculations for mulit-story buildings, ensuring compliance with current regulations
- Pioneered innovative LED lighting designs using cutting-edge lenses, AutoCAD and 3D printing prototyping
- Generating and presented over 50+ customer proposals and maintaining strong client relationship and achieving a 90% project approval rate
- Managed a comprehensive product database with over 16,000 items and automated product ID generation

Projects

Gestalt Engine | C++, Vulkan, CMAKE Feb. 2023 - Present

- Architectured a 3D game engine around the Vulkan API using C++, focusing on abstracting low-level details.
- Integrating modern rendering techniques such as mesh shading and ray tracing to more than double the frame rate and have high visual fidelity even in complex scenes
- Designed an Entity Component System enabling modular and reusable game object components, which keeps the engine flexible and extendable.
- Implementing a GPU-driven pipeline using a render graph to keep GPU stalls to a minimum and maximize overall engine performance.

Greed – 3D Game | C++, OpenGL Oct. 2021 – Sept. 2022

- Developed a game engine supporting common user interaction, incorporating audio and physics libraries
- Secured first place in the Computer Graphics Hall of Fame at TU Wien, showcasing technical expertise and dedication
- Implemented modern rendering techniques including indirect rendering, frustum culling and volumetric light.
- Boosted game performance by transitioning to KTX compressed textures, reducing load times by 80%