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ABOUT ME

I am a driven and enthusiastic software engineer with a passion for using my experience with a broad range of technologies to craft easy to use solutions to complex problems. My strong belief in test driven development, fast iterations and user centric design has allowed me to carry out rapid development of features and applications that provide real solutions to users. I strive for new challenges and revel in tackling novel situations and exploring exciting new technologies.

TECHNICAL SKILLS

Languages	Frameworks	Tools
TypeScript	React	Git
JavaScript	Electron	Vite / Webpack
HTML	Tauri	Jest / Vitest
CSS (SASS)	NodeJS	GitHub / GitLab
C#/.NET	Avalonia	GitLab CI

EXPERIENCE

2022 - Present　　　**Software Engineer**　　　　　　　　　　　　　　　　　**Ultraleap**

- Contributed to the development of a mid-air interaction engine and tooling system for Web. The main application (TouchFree) runs as a service on Windows and Linux, is written in C#/.NET and has a settings application written in React, served using ASP.NET. TouchFree Web Tooling is a TypeScript library, using Jest for tests, that communicates with the service via WebSocket.
- Completely restructured the TouchFree Settings React application to be responsive to arbitrary screen sizes using SASS and CSS modules.
- Experimented with, tested and refined mid-air, touchless interactions within the TouchFree project using C#.
- Adapted the TouchFree Linux build to run on a RaspberryPi, helping expand the use cases for the product, and worked with the mechanical design team to design a suitable enclosure for the prototype system.
- Advocated for and implemented unit tests throughout the TouchFree Web Tooling library using Jest.
- Developed examples demonstrating the capabilities of the main TouchFree product. These were written with React, TypeScript, JavaScript and HTML.
- Created fully customisable, interactive 2D and 3D demos using three.js, React and TypeScript. These demos were made under tight timelines and were used to directly drive sales of the TouchFree product.
- Developed an ASP.NET REST API server to enable logging of data from an internal testing tool.
- Developed and maintained CI scripts for a range of projects using GitLab CI including JavaScript/TypeScript libraries, Tauri/Electron applications, RaspberryPi/Linux images and C#/.NET applications.
- Performed scrum master responsibilities within the team including sprint planning, guiding stand-ups and running retrospectives and sprint reviews.
- Drove the creation and adoption of a TypeScript style guide and Prettier/ESLint, improving code readability and maintainability.

- Drove the adoption of Tauri and Vite to improve the workflows of the team and the performance of our applications.
- Developed the frontend for a consumer desktop application (Ultraleap Widgets) using C#/.NET and the Avalonia framework on a very tight timeline.
- Created a "virtual screen" system for the Widgets application to enable cursor control across multi-monitor setups. This was completed in C#/.NET, was compatible with Windows and MacOS, and involved P/Invoking Objective-C functions to interact with the MacOS API.
- Engaged in activities to ensure the quality of code remained high and knowledge was shared throughout the team such as code reviews, pair programming and swarming.
- Took the role of observer for user testing of our applications, helping to improve them and aid my understanding of interface and interaction design from a user experience perspective.

2022 **Production Systems Developer** **Focusrite Audio Engineering Ltd.**

- Led the frontend development of a new bespoke cross-platform factory test system. The system was built on an Electron platform and the frontend used React, TypeScript and the Ant Design UI library with Jest and React Testing Library for tests. The interface included a dynamically rendered test system which displayed only relevant controls and information based on data parsed from test scripts.
- Co-ordinated design and implementation workshops for the user interface. Created wireframes and specifications from which user stories were created.
- Wrote the test runner engine that sequences tasks within the application using Python and Pytest for tests.
- Developed data validation for the test system that allows data of any type to be compared using a number of operators.
- Underwent training on the use of Rust within realtime audio systems.
- Worked closely with colleagues to deliver project tasks within tight deadlines, whilst maintaining high and exacting standards.

2021-2022 **Junior Production Systems Developer** **Focusrite Audio Engineering Ltd.**

- Maintained the existing factory test system by fixing bugs and adding features to enable the testing of new hardware functionality. This included adding and fixing user interface features within the Django framework and was achieved using HTML, CSS and Jinja templating.
- Completed the foundation work for the new test system application, including configuring an Electron and NodeJS environment and introducing unit testing using Jest and React Testing Library.
- Played a pivotal role in the adoption and development of the team's processes, first adopting Scrum then moving towards Kanban.
- Created factory test procedures to exercise and analyse the performance of audio and MIDI hardware.
- Communicated with teams in the overseas factories and internally in order to debug urgent, production halting issues with the test systems.
- Remotely configured new test machines and assisted in the setup of new servers in the factories in China.

2020-2021 **Junior Production Engineer** **Focusrite Audio Engineering Ltd.**

- Created rapid turnaround cross-platform automation tools to solve internal company workflow bottlenecks. The tools with user interfaces utilised Electron for the ease of cross-platform application building with their frontends created using React, HTML, CSS, JavaScript and TypeScript.
- Created and maintained bills of materials and costing reports for products during development and mass production.

| 2018-2020 | **Production Engineering Intern** | **Focusrite Audio Engineering Ltd.** |

- Developed and maintained a suite of automation tools to improve the workflows of the production engineering team. The program was build using Electron, React and HTML using the Bootstrap UI library. This project was inherited from previous interns and so was updated to use a more modern React version and methods (specifically functional components and hooks).

PROJECTS

| **Evie's Talking Buttons** | **https://eviesbuttons.netlify.app** |

- Developed a web application (written in Preact and TypeScript and served using Netlify) that gives users access to customisable buttons that read text aloud using the device's text-to-speech engine. This was created to enable easy and repeatable communication for individuals who prefer to be non-verbal at times.

EDUCATION

| 2016-2020 | **BSc (Hons) First Class - Music and Sound Recording (Tonmeister)** | **University of Surrey** |

- Achieved a first class grade for my dissertation researching the effects of weight regularisation on an end-to-end Deep Neural Network's ability to model non-linear audio effects.
- Updated a neural network and executed a learning process to obtain accurate models of non-linear audio effects.
- Developed audio DAW plugins using the JUCE C++ framework.
- Conducted listening tests to subjectively evaluate the performance of my research.

| 2014-2016 | **A Levels** | **King Edward VI Sixth Form College, Stourbridge** |

Maths: A* / Music Technology: A / Physics: B / Chemistry (AS): A

OTHER QUALIFICATIONS

Classical Guitar	Trinity Grade 8
Tenor Saxophone	ABRSM Grade 7
Alto Saxophone	ABRSM Grade 5
Music Theory	ABRSM Grade 5
DofE	Bronze
British Canoe Union	2 Star

OTHER SKILLS

Excel / Word / LaTeX
Outlook / Teams / Slack
Jira / Confluence
Draw.io / Gimp

HOBBIES

I'm drawn to the outdoors and explore this through running, rock climbing, mountaineering and surfing. When I feel like staying under a roof I enjoy board games, video games and writing and recording music.