

Curriculum Vitae

James Bradbury

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Professional Experience and Selected Projects

Intersymmetric (2020-2021)

<https://intersymmetric.xyz>

- Built a maintainable frontend site in SvelteKit using TypeScript and ES6.
- Worked with a graphic designer to realise their design in HTML and CSS from wireframes and prototypes.
- Implemented a socket.io backend server to support 1000s of real-time connections.
- Used the Web Audio API and Tone.js to build custom audio synthesisers.
- Deployed site to a Linux VPS on Digital Ocean using NGINX as a web server.
- Used Mocha for testing components and javascript code.
- Used UFW for bolstering security on the Digital Ocean droplet.

Code: <https://github.com/intersymmetric>

Fluid Corpus Manipulation - Learn Platform (2021-2022)

<https://learn.flucoma.org>

- Designed a bespoke content authoring system with SvelteKit, TypeScript and MDsveX.
- Implemented an automated deployment process for pull request previews with Vercel.
- Implemented a robust automatic deployment process with GitHub actions and rclone. The website was built on main branch merges and deployed to a Digital Ocean droplet to be served by an NGINX server.
- Created a searchable index of documents using FuzzySearch and a custom accessible and responsive website.
- Developed interactive demonstrations of machine learning, machine listening and musical theory working together.
- Leveraged d3.js, Tone.js, Chart.js, Three.js and tensorflow.js to support interactive, immersive documentation and resources

Code: <https://github.com/flucoma/learn-website>

Fluid Corpus Manipulation (2021-2022)

- Implemented continuous integration and deployment for internal projects across C++ applications, JavaScript code and websites.
- Redesigned the team's workflow around git flow to streamline our work into testable and more frequent releases. This included a nightly deployment routine backed by testing of the core C++ code with Catch2.

Code: <https://github.com/flucoma/>

PhD Thesis Web Framework (2021)

<https://harnessing.xyz/>

- Wrote my PhD thesis in a web-based format with interactive widgets and multi-media. This was supported by SvelteKit and leveraged Tone.js, d3.js and Three.js for interactivity.

Code: <https://github.com/jamesb93/harnessing>

Patch Bay (2022)

<https://shareapatchwith.me>

- Designed and built a responsive and accessible site in SvelteKit and TypeScript.
- Used the Firebase v9 SDK for user authentication and database storage.

Code: <https://github.com/jamesb93/Patch-Bay>

FTIS (2019-2022)

- FTIS is a Python framework for constructing and rapidly prototyping machine listening and machine learning pipelines.
- Structured a large extensible code-base with an API for development.
- Implemented machine listening and machine learning algorithms using scikit-learn.

Code: <https://github.com/jamesb93/ftis>

Education

2017-2021 **PhD Music Technology**, *University of Huddersfield*

Available at <https://harnessing.xyz/>

2016-2017 **Master of Music**, *University of Western Australia*

2011-2014 **Bachelor of Arts (First Class Honours)**, *University of Western Australia*

Current Employment

Research Fellow in Creative Coding with Fluid Corpus Manipulation (FluCoMa)

Programming, *including:*

- Creating websites and managing a bespoke authoring platform.
- Building binaries from a C++ codebase using cmake and ninja.
- Testing FluCoMa releases with Catch2.
- Working with git version control in GitHub and BitBucket.
- Prototyping machine learning and machine listening algorithms in Python.
- Administration of websites, domains and users on a Digital Ocean droplet.
- Performed regular code reviews with team members to ensure maintainability of framework code.

Administration, *including:*

- Leading and co-designing grant applications.
- Contributing to management and organisation of research projects.

Previous Employment

Sessional Lecturer and Seminar Leader at the University of Huddersfield (2017-2021)

Technician for the Huddersfield Immersive Sound System (2017-2020)

References

Available on request.