

Swan Carpenter

swanio@duck.com
+1 (978) 626 4774

thingsbyspoon.cc
github.com/pitworker

Swan is a software engineer creating highly interactive web-based and tactile experiences.

Education

Carnegie Mellon University
Class of 2021
Bachelor of Computer Science and Arts
Focus in CS and Environments Design
QPA 3.61, College Honors

Relevant Coursework

Computer Science
Computer Systems
Parallel & Sequential Algorithms
Theoretical Ideas in Computer Science
Principles of Imperative Computation
Applied Machine Learning
Robotics for Creative Practice
Conlanging with Language Technologies
Matrices and Linear Transformations
Calculus in Three Dimensions
Probability

Design
Environments Design I, II, III
Algorithmic Textile Design
Experimental Capture
Futures
Systems
How People Work

Skillset

| | |
|----------------|-----------------------|
| Web | Native |
| JavaScript | C/C++ |
| TypeScript | Rust |
| React | Python |
| NextJS | Java |
| Tailwind CSS | C# |
| Sass | Arduino |
| NodeJS | |
| Electron | Multimedia, AI |
| WebAssembly | TouchDesigner |
| Google Cloud | FFMPEG |
| Cloudflare | Unity |
| | ChatGPT/Gemini |
| Mobile | Management |
| Android Studio | Git |
| Dart/Flutter | Bash/Shell |
| Swift/XCode | |

Honors and Awards

Armero Award for Inclusive Creativity
2021
Capstone Project Award for Zobits

Pittsburgh AAF Award
2023
Gold for *Netflix Stranger Things Clock*

National American Advertising Award
2023
Gold for *Doodles Genesis Factory*

Work Experience

Fullstack Developer | Freelance
October 2023 - Present
Building key **frontend** and **backend** features for consumer-facing web applications and platforms; using **TypeScript, React, NodeJS, Python, and Cloudflare**. Clients include Deeplocal, Nik Bentel Studio, Magic Circle Game Studio, and Mars.

Software Engineer | Deeplocal
June 2021 - May 2022 (lvl. 1), May 2022 - October 2023 (lvl. 2)
Leading software development, designing **system architectures**, and writing code for award-winning interactive **frontend** and **fullstack** web experiences; using **JavaScript, TypeScript, React, NextJS, NodeJS, Electron, and Google Cloud Platform**. Clients include Google, Meta, Netflix, TikTok, Museum of the Future, and Virgin.

UX Prototyping Intern | Motional (Aptiv-Hyundai JV)
June 2020 - August 2020
Prototyping and developing functional demo of a 3D map view within the management software for a large fleet of autonomous vehicles; using **JavaScript**. Designs have since been implemented into the production software.

UX Prototyping Intern | Aptiv
July 2019 - August 2019
Designing and implementing interactive, location-based, contextual UI elements for in-car passenger displays in autonomous vehicles; using **Java** and **Android Studio**.

Notable Work

Magic Circle Platform-Wide Tutorials | Professional
Feature launched February 2024
Owned implementation of a platform-wide tutorials feature for an online social gaming platform. Feature is customizable per-game, and built on a stack of **TypeScript** and **React** on a serverless **Cloudflare** infrastructure.

Google Cloud Next Postcards | Professional
Launched August 2023
Led software development for a microsite enabling creation and printing of custom AI-generated postcards. Stack includes a **NextJS** and **Electron** frontend using Google's Imagen and PaLM (now Gemini) APIs, and a **NodeJS** server managing a series of printers.

Virgin Voyages Jen AI | Professional
Launched June 2023
Collaborated on development of a **Google Cloud Platform** hosted **TypeScript** middleware **REST API** interfacing between frontend and AI server to generate, stitch, and stream custom (consensual) deepfaked invitation videos featuring Jennifer Lopez inviting the recipient on a personalized Virgin cruise experience.

Highmark "How's It Going?" | Professional
Launched May 2023
Built out a server using **Rust** and **Tokio** and a series of **JavaScript/React** frontends to maintain a queue of user-generated survey data being simultaneously created, edited, and removed by multiple visitor- and staff-facing clients. Presented as part of the launch event for Highmark's "How's It Going?" campaign.

Mobile-Powered Synthesizer | Professional
Completed September 2022
Contributed to a mobile web app and accompanying SDK for a line of Android phone powered MIDI synthesizers. Was responsible for major pieces of the **JavaScript/DOM** website and **Dart/Flutter** mobile app, as well as **documentation** for the app's SDK.

TikTok TAC Moderation Workstation | Professional
First site launched February 2023, subsequent sites launched later
Led software development and served as primary contributor for a set of kiosks demonstrating TikTok's moderation process. Kiosk application built in **JavaScript** and **Electron** with full multilingual support and **Strapi**-based, client-facing content management system.

Tartan Generator | Personal
Completed August 2022
Conceived, designed, and developed a **JavaScript** and **Rust/WebAssembly** based web app that allows users to upload images to generate tartan plaids based on color palettes extracted from the images using a K-Means algorithm. Plaids are drawn using the **HTML Canvas** and direct **DOM** manipulation.