Swan Carpenter

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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 (ES6)	C/C++
TypeScript	Rust
React	Python
NextJS	Java
Express	C#
WebPack	Arduino
NodeJS	
Electron	**Multimedia, AI**
WebAssembly	TouchDesigner
Google Cloud	FFMPEG
Cloudflare	Unity
	ChatGPT/Gemini
Mobile	
Android Studio	**Management**
Dart/Flutter	Git
Swift/XCode	Bash/Shell

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 | studio5C
October 2023 - Present
Building key backend and frontend features for consumer-facing web applications and platforms; using **TypeScript**, **React**, **ES6**, **Express**, **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 machines and web experiences; using **JavaScript**, **TypeScript**, **Express**, **React**, **WebPack**, **NodeJS**, **Electron**, **Python**, 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

Google Cloud Next Postcards | Professional
Launched August 2023
Led software development for a microsite through which event visitors submit travel memories to create and print postcards with custom AI-generated illustrations and messages. Stack include a **NextJS**-based frontend using Google's Imagen and PaLM (now Gemini) generative AI APIs, and a **NodeJS** server managing a series of printers.

Virgin Voyages Jen AI | Professional
Launched June 2023
Collaborated on development of a **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.

Google Marketing Live Pinball | Professional
Launched May 2023
Led software development and contributed to creative concepting for a trio pinball machines running custom, **C#** and **Unity**-based gameplay software for Google's Marketing Live 2023 event. Software scope encompassed ball tracking, communicating with in-game hardware features, scoring, play mechanics, and mid-game cutscenes.

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.

Zobits | Personal
Completed May 2021
Developed **Arduino**-based electronics and collaborated on **Unity**-based mobile app and product design for a creative toy with which users create digital biomes by selecting from a set of Bluetooth-enabled magnetic organism figures. Generated biomes develop over the course of a week, with varying levels of success determined by a genetic algorithm written in **Java**.