

# 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

<b>Web</b>	<b>Native</b>
JavaScript	C/C++
TypeScript	Rust
React	Python
NextJS	Java
Tailwind CSS	C#
Sass	Arduino
NodeJS	
Electron	<b>Multimedia, AI</b>
WebAssembly	TouchDesigner
Google Cloud	FFMPEG
Cloudflare	Unity
	ChatGPT/Gemini
<b>Mobile</b>	<b>Management</b>
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, HTML, CSS, 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, HTML, CSS, 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, HTML, and CSS**. 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.