

# 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 mobile 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>Mobile</b>	<b>Native</b>
Android Studio	C/C++
Dart/Flutter	Rust
Swift/XCode	Python
ADB	Java
	C#
<b>Web</b>	Arduino
JavaScript	
TypeScript	<b>Multimedia, AI</b>
React	TouchDesigner
NextJS	FFMPEG
Sass	Unity
NodeJS	ChatGPT/Gemini
Electron	
WebAssembly	<b>Management</b>
Google Cloud	Git
Cloudflare	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 | Freelance**  
October 2023 - Present  
Building key backend and frontend features for consumer-facing web applications and platforms; using **TypeScript**, **React**, **NodeJS**, and **Python**. 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 **Dart**, **Flutter**, **ADB**, **JavaScript**, **React**, **NodeJS**, **Python**, and **Rust**. 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

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

**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 **mobile app** 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 mobile web** 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 Pixel Palette | Professional**  
Launched October 2022  
Collaborated on software development for a mixed **Android mobile** and room-scale activation using Google's **Tensor** chip to process image data and generate custom, projected art pieces based on Google Store visitors' outfits. Built out a suite of **ADB**-based testing tools.

**Zobits | Personal**  
Completed May 2021  
Developed **Arduino**-based electronics and collaborated on **Unity**-based **Android 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**.