Swan Carpenter

swanio@duck.com   thingsbyspoon.cc   Swan is a software engineer creating highly
+1 (978) 626 4774   github.com/pitworker   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
JavaScript (ES6)
TypeScript
React
NextJS
WebPack
NodeJS
Electron
WebAssembly
Google Cloud
Cloudflare
Figma

Native
C/C++
Rust
Python
Java
C#
Arduino

Mobile
Android Studio
Dart/Flutter
Swift/XCode

Generative AI
ChatGPT
Gemini
Imagen
Midjourney

Perception
MediaPipe
PoseNet/Blazepose
FaceOSC
Google Speech to Text

Graphics
Fabric.js
p5.js
MapBox
WebGL

Multimedia
8th Wall AR
Unity

Management
Git
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

Frontend Developer / Creative Technologist | studio5C
October 2023 - Present
Managing own creative tech/frontend dev studio building consumer-facing web applications and platforms that empower users to explore novel technologies firsthand; using **TypeScript**, **React**, **Fabric.js**, **NodeJS**, **Python**, **Gen AI**, and **CloudFlare**. Clients include Deeplocal, Artey.ai, Nik Bentel Studio, Magic Circle Game Studio, and Mars.

Creative Technologist | Deeplocal
June 2021 - May 2022 (lvl. 1), May 2022 - October 2023 (lvl. 2)
Leading software development, designing system architectures, writing code, and ideating concepts for award-winning interactive machines and web experiences; using **JavaScript**, **TypeScript**, **React**, **WebPack**, **NodeJS**, **Gen AI**, **Unity**, 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
Ideating, prototyping, and developing functional demo of a 3D map view within the management software for a large fleet of autonomous vehicles; using **JavaScript**, **MapBox**, and **WebGL**. Designs are now 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

Artey.ai | Professional
Currently in Development
Leading frontend development for a startup AI platform empowering novice users to create professional-quality film posters by simply uploading images of key characters and environments, requiring no prompt engineering or graphic design knowledge from users. Stack includes a **TypeScript**-based **NextJS** frontend using **NextUI**, **Tailwind**, and **Fabric.js**. Frontend makes API calls to an AI server running a tuned **ComfyUI** image-to-image model.

Google Cloud Next Postcards | Professional
Launched August 2023
Led software development for a microsite enabling event visitors to use novel generative AI algorithms to create images and messages for custom postcards with no end-user prompt engineering. Stack includes **JavaScript**-based **NextJS** frontend, 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 **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.

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.

Android-Powered Synthesizer | Professional
Completed September 2022
Major contributor to a **Dart**/**Flutter** native app and accompanying **JavaScript**-based plugin SDK for a highly customizable, Android-powered synthesizer in partnership with a major tech company. Also ideated and built sample instrument plugins and documentation for the SDK.

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**.