Swan Carpenter

Swan is an engineer building highly interactive web experiences and seeking frontend and fullstack roles.

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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 Computer Science
Principles of Imperative Computation
Functional Programming
Applied Machine Learning
Robotics for Creative Practice
Conlanging with Language Technologies

Math
Mathematical Concepts and Proofs
Matrices and Linear Transformations
Calculus in Three Dimensions
Probability

Design
Environments Design I, II, III
Futures
Systems
How People Work

Skillset

Web
JavaScript
TypeScript
React
NextJS
Express
Tailwind CSS
NodeJS
Electron
WebAssembly
Google Cloud (GCP)
Cloudflare

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

Multimedia, AI
TouchDesigner
FFMPEG
Unity
ChatGPT/Gemini

Mobile
Android Studio
Dart/Flutter
Swift/XCode

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

Fullstack Developer | studio5C
October 2023 - Present
- Managing sole-proprietorship fullstack development studio
- Owning end-to-end **frontend** and **backend** dev for consumer-facing webapps/platforms
- Using **TypeScript**, **React**, **HTML**, **CSS**, **NextJS**, **NodeJS**, **Python**, **GCP**, and **Cloudflare**
- Clients include Deeplocal, Nik Bentel Studio, Magic Circle, Mars, LinkedIn, and Google

Software Engineer | Deeplocal
June 2021 - May 2022 (lvl. 1), May 2022 - October 2023 (lvl. 2)
- Leading software teams for multiple simultaneous projects
- Designing **system architectures**, and writing **frontend** and **backend** code
- Building award-winning interactive web experiences
- Using **JavaScript**, **TypeScript**, **React**, **NextJS**, **HTML**, **CSS**, **NodeJS**, **Electron**, and **GCP**
- Clients include Google, Meta, Netflix, TikTok, Museum of the Future, and Virgin

UX Prototyping Intern | Motional (Aptiv-Hyundai JV)
June 2020 - August 2020
- Owning design and prototype development for functional demo of a 3D map view
- Integrating live data from management software for a large fleet of autonomous vehicles
- Using **JavaScript**, **MapBox**, **HTML**, and **CSS**
- Designs have since been implemented into the production software

UX Prototyping Intern | Aptiv
July 2019 - August 2019
- Owning design and prototype development for infotainment layer on AV in-car map view
- Integrating live interactive location-based content into in-car passenger display
- Using **Java** and **Android Studio**

Notable Projects

Gemini Headline Generator
Launched February 2025
Owned fullstack development of mobile-first progressive web app harnessing Google's **Gemini** and **Speech-to-Text API**s to allow users to generate custom event-themed magazine headlines as part of Google's NBA All Stars marketing event, supporting hundreds of simultaneous users. Stack included **TypeScript**, **React**, **NextJS**, and **GCP**.

Artey.ai
Ongoing since October 2024
Owning frontend development and UX design of **TypeScript**, **NextJS**, **React**, and **Tailwind**-based generative-AI integrated poster design application. Frontend scope includes handling upload and tracking of user-generated assets, edit history, interactive **FabricJS**-based canvas, communication with backend AI APIs, and navigation of users' account and document information.

Magic Circle Platform-Wide Tutorials
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.

Virgin Voyages Jen AI
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?"
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.

TikTok TAC Moderation Workstation
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.