Kenneth (Page) Swanson

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Professional programmer with experience in production software for a .NET ecosystem with C#, MS-SQL, and ES5/ES6. As of today: teaching coding locally, renewing personal interest in C through independent work, freelancing with JavaScript using a functional approach, and learning Rust via a sequencer clone project. A native English speaker learning German (basic competency).

Experience

Software Developer in Residence / New Haven Free Public Library - New Haven, CT

05 / 2020 → Present

Serves as a community reference for learning programming at the library. Bi-weekly sessions emphasizing core web technologies as an entry point to coding. Holds weekly office hours for help with programming of all kinds (JavaScript, HTML, CSS)

Introduced concepts in audio software through graphical programming, creating instruments for sound synthesis (PureData)

Lead a database survey series where participants followed tutorials on query building, understanding schema, and finally building and running a micro database server (SQLite, Deno)

Full-stack Software Engineer / Abrigo (Sageworks) - Remote

09 / 2017 → 11/2021

Developed applications for large data transfer alongside a team of 10 engineers, product managers, and QA to enable a rapid and stable financial import pathway (Agile w/ Jira, C#, .NETStandard)

Provided hourly support for client-facing project managers, responding to service requirements for over 1000 financial institutions across the US, with extensive assistance during the 2020 national SBA disbursement period for institutions providing loans at the outset of the COVID-19 pandemic, aiding in the pipeline for subscribers to service more than 1 million in funds.

Part of a frontend developer initiative encouraging resource sharing across teams, build process and workflow improvements (Vue.js)

Engineered a data migration frontend for managers to quickly move configurations, relationships, and financial entities across accounts, with feedback and severity logs to save time on common merge operations. Iterated the backend with 2 engineers to handle arbitrary entities using a factory pattern, resolving foreign key dependencies in schema with entity maps in code (C#, NHibernate, LINQ, SQL)

Scaled a document import service to onboard client image repositories and associate existing financials. Incorporated entity layer for import transactions and added unit tests, task logging with line-item feedback. Included an avenue for internal distribution to customers for faster advisory feedback. Reduced processing times from 24 hour benchmarks to 2 hour run times with comparable loads (C#, SQL, Moq)

Engineered a guided walkthrough using component architectures for a modular onboarding interface. Included automations for parsing initial extracts to generate mappings, check data integrity, and poll services to suggest new configurations. Over 70% of newly serviced clients began using the walkthrough on release, relieving effort for project managers during setup. Enabled an automated pathway with greater agency for the financial institution and inspired a series of similar developer initiatives (AngularJS, components)

Programming Systems TA / Georgia Institute of Technology - Atlanta, GA

09 / 2016 → 05 / 2017

Assisted a section of more than 50 student programmers with algorithm development, data structures, and concepts in the C language. Held comprehensive review sessions and weekly office hours (C, MIPS Assembly)

Product & Test Engineering Intern / Texas Instruments - Dallas, TX

05 / 2016 → 08 / 2016

Designed an internal web portal to process and archive data from a test device specification spreadsheet. Built a text parser to support decision trees and report creation for a team of 5 engineers (Python)

Created tests with mock requests and included form sanitization and server-side input type expectations (Promise, Requests, regex)

Education

Georgia Institute of Technology - Atlanta, GA

05 / 2017

B.S. Computer Engineering GPA : 3.5 / 4.0

Selected Coursework Processing of Speech Signals, Digital Signal Processing, Artificial Intelligence, Computer Architecture

Projects

Enmossed.org Static Website

04 / 2021 → 06 / 2021

Collaborated to create a new home for the Enmossed recording label. From a design draft, developed a page for visitors to discover and stream recordings produced by the label. The site owner maintains a static JSON resource consumed by functional components. Used media queries to create a consistent experience across screens - mobile or otherwise (ES6, lit-html, Web Components)

TOVA - A Responsive Musical Synthesizer

12 / 2016 → 05 / 2017

Prototyped a holistic music synthesis device which responded to audio and notes with a voice selection and melodic phrase. Contributed an audio feature extraction pipeline based on the chromatic spectrum for input analysis (Python, librosa, TensorFlow)

Sub 1 Kbps Speech Coder

03 / 2017 → 04 / 2017

Implemented a 996 bps speech coder which maintained intelligible speech and speaker fingerprint. Constructed architecture with elements of LPC, codebook vector quantization and pulse excitation in MELP (MATLAB)

Guthman-Moog Musical Instrument Competition

2015, 2016, 2017

3-time participant, 2-time finalist designing and building novel synthesizer controllers for the Moog Werkstatt synthesizer (Arduino)