

# Kenneth (Page) Swanson

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## Education

### Georgia Institute of Technology

05 / 2017 B.S. Computer Engineering, GPA : 3.5 / 4.0

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## Experience

### Full-stack Software Engineer / Abrigo - Remote

09 / 2017 → Present **Develops applications for large data transfer** alongside a team of 9 full-stack engineers and product managers to enable a pipeline with applications using C# targeting .NET Standard. **Provides hourly support** for client-facing project managers, responding to service requirements for over a thousand financial institutions across the US. **Delivers features in an Agile framework** on a bi-weekly sprint schedule to release tested updates on a regular cycle. **Part of a frontend initiative** to introduce code share opportunities across teams, packaging/build process improvements, a contemporary frontend workflow, and wider internal adoption of the Vue.js framework. **Scaled a document import service** as a way of onboarding client image repositories with existing financials. Reworked to incorporate existing NHibernate repository layer for import transactions, unit tests with Moq, task logging with line-item feedback. Added an avenue for distributing internal documents across customer libraries for rapid internal document transfer. **Engineered a guided walkthrough** by learning component architectures in AngularJS to setup a modular onboarding interface. Included widgets for parsing initial extracts to generate mappings, check data integrity, and poll services to suggest configuration improvements. Enabled a subscription pathway with greater agency for the financial institution. Inspired new workflows in other parts of the product inheriting this modularity. **Built a logs view** for historical detail on imports and transfers. Revealed previously inaccessible reporting for improved client support, enabled user-led problem solving. Recent optimizations include improvements to lookup SQL performance with table normalization and scheduled data consolidation approach.

### Software Developer in Residence / NHFPL - New Haven, Ct

05 / 2020 → Present **Serves as a community reference** for software development resources and learning tools. Leads sessions on a bi-weekly basis with introductions to core web technologies as an entry point to learning code. Offers weekly individual help sessions as office hours for aid in coding of all kinds. **Leads an app building series** teaching newcomers about the development landscape and web technologies targeting mobile devices.

### Programming Systems Teaching Assistant / Georgia Institute of Technology - Atlanta, Ga

09 / 2016 → 05 / 2017 **Assisted sophomore programmers** with algorithm development, data structures, and general concepts in theory and design using C and MIPS assembly languages.

### 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 document. Used Python for text parsing, data-driven decision making, and report creation for a team of 5 engineers. **Experimented with a JSON body** for requests with Ajax, received using the Python Requests library. Included form sanitization in JavaScript and document content checking with regex via Python on the server-side where all inputs had an expectation. **Built responsive data visualizations** with Plottable.js to identify trends in test device design.

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## Projects

### TOVA - A Responsive Musical Synthesizer

12 / 2016 → 05 / 2017 **Prototyped a holistic music synthesis device** which responded to arbitrary input audio and note sequences with a voice selection and melodic phrase. **Contributed an audio feature extraction module** based around the chromagram with Python using librosa for input audio analysis on the Raspberry Pi. **Trained a pitched tone classifier** with the TensorFlow learning framework using calculated points from over 4000 audio files to pair an accompanying voice from an analog synthesis module.

### Sub 1 Kbps Speech Coder

03 / 2017 → 04 / 2017 **Implemented a 996 bps speech coder** in MATLAB while maintaining intelligible speech and speaker fingerprint. Constructed architecture with elements of LPC, codebook vector quantization and pulse excitation in MELP.

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## Interests

Sound synthesis, Mixing and recording techniques, Obsolete drum machines, Web technologies, Teaching and demonstration, Electronic literature, Exciting and difficult music, Recorded performance