Andrew Sallop Fenlon

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Freelance Full-stack Developer / IT Consultant

- **Ap0cene (2022-Present)** Developed a payment tracking system for vendors based on the Shopify API. Worked on Ap0cene's own custom logistics backend. Worked on the manufacturing of the Ap0cene in-house line.

- **Loftie (2021-2022)** Developed firmware for the Loftie clock, an embedded smart alarm clock. Primarily developed the firmware in C and helped integrate the clock with Google Cloud services.

- **(Atlantic Charter Insurance. 2011- Present)** Helped to integrate a new computer system and claim processing system for an insurance company and agency. Worked on data persistence and security. Performed various other IT related tasks.

- **Freelance work (2011-present)** Developed a custom flat-file CMS in Python to allow for easy web publishing and editing without the need of a database installation. Created a custom e-commerce framework in Ruby on Rails using ActiveMerchant for payment processing and the USPS api for fulfillment tools. Created and managed websites for dozens of individual clients, including small businesses, as well as reputable record labels, artists and musicians. Created custom tools to interface social media sites.

- Strong in Python, Ruby, Perl, C and Javascript/Nodejs. Additional experience in C++, Java, Common Lisp and Scala. Experience with SQL, AWS and techniques such as hashing, indexing and MapReduce. Linux Enthusiast. Familiar with Hadoop, HDFS, HBase.

Personal Projects/Research

- **Procedural Paintings (2015-present)** Developed a technology stack to produce parameter-based, stochastic imagery and rendered images as oil on canvas http://asdf.us/paintings

- **Songshark (2016-present)** Algorithmic and AI-driven music company formed at the Harvard Innovation Lab. Worked as the sole-programmer and CTO. Winner of the 2016 Dean's Challenge in Cultural Entrepreneurship at Harvard University. http://songshark.com

- **Endless Strings (2016)** A 6000-song album of original and unique music produced using the Songshark technology stack. http://endless-strings.com

- **Syllabification (2016)** Used Machine Learning and web-scraping techniques to create a toolkit for syllable separation. Software can translate a string into its phonetic representation, and subsequently its constituent syllables, using pattern recognition and statistical analysis of phonemes in English. Also provides a way to use the syllable separations to sort all words in a text document by rhyme, scoring rhyme strength using a syllable-based rhyme heuristic. Objective was to develop methods to do computer-based syllable division and algorithmic rhyming.

- **VSTi/LADSPA/DSSI/OSS Hosts (2014)** Wrote command-line tools in C to parse MIDI and render MIDI files with software instrument plugins for a variety of plugin APIs.

- **Music Serialization (2015)** Have been extensively researching methods to describe musical compositions in terms of parameters. Objective is to create new tools for music prototyping, AI/statistics-based musical composition and state/HMM-based musical prediction. Extensive research on computational score analysis and music theory grammars.

- **Chime Crisis LLC (2014)** Launched a made-to-order personal song delivery service with a friend using automatic/algorithmic music composition. Compositions and lyrics were developed using custom Python music prototyping and music production libraries using data from Facebook and Twitter APIs.

- **Photoblaster (2011-Present)** Created a public online suite of parameter-based image editing tools, allowing users to generate gradients or perform DSP effects on images through a web form and server-side processing. Has accumulated a consistent user base and over 500,000 images in cloud storage. Developed a Python library and to analyze the image processing commands in the user data and MapReduce log files to determine image popularity. Experimented with using the analysis results to drive AI-based image generation. Made in collaboration with Jules LaPlace of OkFocus.

- **Scannerjammer (2011)** Created a video and music sharing website where users can post videos and mp3s from Vimeo, YouTube, Soundcloud and other vendors live into a chat. Made in collaboration with Jules LaPlace of OkFocus.

Education
New England Conservatory of Music – BM (2007). Tufts University – BA (2007).   Phillips Academy at Andover (H.S.)

References
Sebastian Demian (booking@basedworld.com)
Julian LaPlace (jules@okfoc.us)
Joseph Russo (jnrusso@atlanticcharter.com)