

## Andrew Sallop Fenlon

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Public Repo: <https://github.com/pepperpepperpepper>

Personal Site: <http://asdf.us/pepper>

## Personal Projects/Research

- **Procedural Paintings (2016-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. <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.
- **Syllabification (2014)** 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.

## Freelance Full-stack Developer / IT Consultant

- **Based Twitter Feeder (2012)** Created an app for the rap entertainer Lil B to track all instances of the word "based" on Twitter and Instagram. Wrote services to monitor users who made reference to any of a set of

key terms in an effort to keep track of Lil B's most devoted fans online. Created views for the app data, and a real-time Twitter client for users to sign in and perform all Twitter actions. Used a REST api written in Perl catalyst and SQL. Came up with a system to identify when a user was using the word "based" in the context of Lil B.

- **Girltime (2013)** Created software to track all photo posts on Twitter and Instagram for text containing the string "#girltime" in reference to the rap entertainer Lil B. Included a client that would allow users signed into Twitter to take a photo, edit the photo (draw and add text), download and edit another user's photo, like, post and repost. Included a public "#girltime" gallery, which would update continuously in real-time.
- **Basedgodhead.com, Basedworld Shop, RareBasedItems, et al. (2012-2013)** Created a custom e-commerce framework in Ruby on Rails using ActiveMerchant for payment processing and the USPS api for fulfillment tools.
- **FindATree.com, Chromesparks.com, et al. (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.
- **(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.

## Technical Skills

- 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.

## Education

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

## References

Sebastian Demian ([booking@basedworld.com](mailto:booking@basedworld.com))

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