

Jonathan C. Shea

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Education

B.A. *Physics*, Dartmouth College, Hanover, NH June 2003
Course work: Structure and Interpretation of Computer Programs, Numerical Methods,
Digital System Identification and Control, Discrete-Time Signal Processing

Experience

ExpanDrive Inc. *Developer and Junior Partner*
Cambridge, MA 2007-2010

Co-developer of ExpanDrive, an FTP / SFTP remote filesystem for Mac OS X. Primary developer for ExpanDrive's Objective-C GUI. Also developed and maintained the installer, license and registration system, password management, and Finder contextual menu plugin. Architect and developer of a Python framework for building desktop applications. Built a framework for dynamically associating objects with HTML forms, and for constructing or updating the object with the form's output. Built a user configurable logging system and integrated bug-reporting feature. Scripted, recorded, and produced a screencast demonstrating the product.

Co-developer of Strongspace, an online file sharing and backup service built with Ruby on Rails. Developed an online AJAX file browser with jQuery. Implemented a system for subscription billing and payment processing. Designed a system for users to securely and flexibly share file access with each other, built on ZFS's Access Control Lists. Developed the user account settings and preferences interfaces. Designed and built an XML / JSON API. Extensive experience with Linux, Solaris, and web service stacks. Assisted with technical support, documentation, and customer satisfaction. Informal company expert on git, bash, and Emacs.

Thayer School of Engineering at Dartmouth *M.S. Candidate*
Hanover, NH 2005-2007

Designed and built a quantitative, physics-based model for magnetic perturbations resulting from electrical currents in the Earth's ionospheric plasma. Developed innovative visualization techniques for large, multivariate data sets in two and three dimensions. Developed an `mmap` abstraction layer for manipulating very large data sets. Extensive numerical programming in MATLAB and IDL. Simulation results were compared to time-series observations to answer questions of causality, test theoretical predictions, and validate other computer models.

Outdoor Programs Office *Director, Dartmouth Outting Club Trips*
Hanover, NH 2002-2003

Director of the largest collegiate orientation outting program in the country. Recruited, trained, and managed 220 volunteer trip leaders and 40 full-time logistical volunteers.

Projects

css3-parse: A CSS parser written in Emacs Lisp. Builds the AST for a CSS file, detecting and reporting parse errors. I plan to use the parser to build a powerful new CSS editing mode for Emacs.

authorization_osx.py: A simple Python package for interfacing with the OS X system-wide authorization services framework. Implemented with `ctypes` so that it can be used without compilation.

no procrast: A user-configured Safari 5 extension (HTML / JavaScript) that blocks selected sites for a period of time after the user visits them.

Noisy.app: Maintainer of an audio white-noise generator for OS X. Added a Brownian-noise generator and keyboard shortcuts. iPhone version in development.

Flickr Uploader for photo: A plugin for Apple's iPhoto which allowed users to easily export and upload photos to Flickr. Required modest reverse engineering of an unpublished API.