

# NATHAN TARRH

EDUCATIONAL & MULTIMEDIA TECHNOLOGY

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## Education

### Tufts University

Bachelor of Science in Computer Science

May 2014 (expected)

GPA: 3.50

Selected CS coursework: Algorithms, Data Structures, Machine Structure & Assembly Language Programming, Programming Languages, Advanced Functional Programming, Operating Systems

Selected other coursework: Advanced Electronic and Digital Media, Entrepreneurial Leadership, Experimental Film: Aesthetics and Production, Postmodernism and Film, Technological Tools for Learning

## Experience

### Tufts Center for Engineering Education and Outreach

Research and Teaching Assistant

May 2011—present

Medford, MA

Developing BlocklyTalky, a platform for networked, tangible creations using the Raspberry Pi and Google's Blockly programming editor, at the Lab for Playful Computation.

Designed and developed curricula and workshops for engineering education in elementary schools under the Integrating Engineering and Literacy grant.

### Harvey Mudd College

Research Assistant

June 2013—August 2013

Claremont, CA

Implemented context-free grammar parsing (CYK algorithm) to create higher-order roadmaps for jazz chord progressions under the Intelligent Music Software grant (NSF REU).

Optimized algorithmic matching for music with 100-150% speedup.

### WMFO Medford — 91.5 FM

Software Development

February 2012—May 2013

Medford, MA

Developed web scraper to find lyrics and flag explicit tracks (digital catalog of ~250 thousand songs), using Python and the BeautifulSoup library.

Created taste profiler using playlist history and the Echo Nest API to recommend radio shows to listeners.

Administered servers for catalog, station wiki, and public website.

## Projects

### Park Surfing

Couch surfing for parking spaces. A Node.js app that allows users to list and rent their driveways and sidewalks for cash.

### PetOwnerFinder

Matches a tumblr blog and a pet with another similar blog based on tag similarity. Created with Node.js at MIT's Comedy Hack Day.

### Taste Profiler

Profiles radio shows using their playlist history and matches them with compatible listeners. Written in Python and JavaScript.

## Technical

Languages:

C/C++

Python

Java

JavaScript

Frameworks:

Node.js/Express

Flask

Other:

\*nix toolkit

Git/SVN