

# Joe Sanford

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## Education

- 2012–Present **M.Sc., Computer Science**, *Tufts University*, Medford, MA.  
2003-2005; **B.Sc., Information Sciences and Technology**, *Pennsylvania State University*, University Park, PA.  
2010-2012

## Professional Experience Highlights

- 08.12- Present **Graduate Research and Teaching Assistant**, *Tufts University*, Medford, MA.  
○ Assisted students, graded papers, and helped teach 5 courses: Databases (Graduate level), Electronic Musical Instrument Design, Computational Models in Cognitive Science, Unix Systems Administration, and Introduction to Computer Science  
○ Created back-end infrastructure, custom scripts, and interfaces for automated grading  
○ Aided students in creating electronic musical instruments, including circuit design, signal processing, and use of MIDI.  
○ Lead developer of BlockyTalky, a tangible tool for learning Computer Science (more at <http://ipc.cs.tufts.edu/blockytalky/>)  
○ Led teams composed of undergraduate and graduate students to further develop BlockyTalky, including usability studies
- 06.09-present **Webmaster**, *Society of the First Infantry Division*, Ambler, PA.  
○ Created a new web site for the Society, originally in PHP and porting to Django  
○ Redesigned member management area to be more user friendly and easier to use  
○ Managed a database of over 11000 active members
- 05.11-06.12 **Research Assistant**, *Applied Cognitive Sciences Lab*, University Park, PA.  
○ Led a study examining the acquisition of cognitive motor skills with respect to varying training regimens  
○ Aided in the development of an intelligent tutoring system, including contributing to the development of tutor methodology capable of transitioning learners from declarative to procedural knowledge  
○ Assisted graduate students with their research, including developing and maintaining Java and C applications  
○ Edited and revised academic publications, tutorials, and FAQs
- 01.10-07.10 **Application Developer**, *Majestic Consulting Group*, Marlton, NJ.  
○ Created new installations of MS Dynamics CRM and MS SQL Server, including installing Reporting and Integration Services  
○ Created dynamic SSRS reports that work in conjunction with Microsoft Dynamics CRM, as well as customizing reports and their interfaces based on customer guidelines  
○ Developed customizations for Microsoft CRM utilizing custom Javascript and C# scripts and applications
- 08.08-12.09 **Contractor/Consultant**, *Neapco, Inc.*, Pottstown, PA.  
○ Created an entire database in Oracle based off a set of linked spreadsheets  
○ Created a PHP front-end interface for users to load and manipulate data  
○ Worked through the development lifecycle with users, testing applications and providing feedback for the introduction of improvements and the management of bugs
- 04.07-08.08 **Intern/Consultant**, *PJM Interconnection*, Norristown, PA.  
○ Handled daily customer issues in the Database and System Administrator on Duty role for Oracle Databases. This included account creations and deletions, access issues, and security issues  
○ Fully automated monthly data restores and validations using SSIS and SSRS  
○ Acted as Production Release Coordinator, managing software development and release processes  
○ Acted as system administrator, including writing bash scripts, automating jobs, managing storage, access, and patching of systems.

## Computer Skills

- Languages Python, Java, Ruby, Bash, Swift, C#, C++, C, Objective-C, Max/MSP, PureData, SQL, Lisp, PHP, JavaScript, HTML, CSS
- Technologies Linux, Mac OS, and Windows systems, Eclipse, Sublime Text, Emacs, VMWare and Virtualization, DBMS (Postgres, MySQL, MS SQL Server, Oracle, SQLite) Web Frameworks and Servers (Django, Flask, Tornado, Ruby on Rails; Apache, nginx, lighttpd), Redis, Microsoft Business Intelligence Tools (Reporting, Analytic, and Integration Services), Visual Studio, SQL Server (2000, 2005, 2008), Oracle 12c, Oracle Enterprise Manager
- Interests Developing a home automation system using Raspberry Pis and Android for electronics, lights, door, camera, and HVAC controls. Play guitar, bass, and banjo. Building/designing effects pedals. Current project is a heavily modified guitar/MIDI interface.