Chris Fox

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Education

2015 (expected) **PhD Computer Science**, *North Carolina State University*, Raleigh, NC.
Research Focus: Modeling User Knowledge in a Tutorial Dialogue System

2012 **MS Computer Science**, *North Carolina State University*, Raleigh, NC.

2009 **BS Mathematics, BS Economics**, *University of Washington*, Seattle, WA.

Skills

Languages: Python, Javascript/HTML/CSS, Java, Objective C, C

Experience

August 2013 – present **Teaching Assistant**, *North Carolina State Univeristy*, Raleigh, NC.
- Assisted with developing course content for a mixed undergrad/grad class on spoken dialogue systems.
- Presented recent research results during lecture.
- Advised students regarding speech recognition and synthesis software to use in their semester projects.

May 2013 – August 2013 **Software Engineer Intern**, *Apple*, Cupertino, CA.
- Researched, implemented, and tested a new load balancing scheme for the Game Center backend.
- Built a web-based visualization to show estimated improvement under the new system.
- Learned basics of setting up and writing jobs for Hadoop and HBase.

Jan. 2012 – May 2013 **Research Assistant**, *North Carolina State University*, Raleigh, NC.
- Extended latent Dirichlet allocation (a probabilistic model of latent structure in a set of texts) in a novel way to follow changes over time in automatically discovered topics.
- Used the Twitter API to gather a corpus of 32,000 news articles.
- Applied Gibbs sampling to fit a model to the corpus.
- Separately, mentored an undergraduate on a project to build a speech-based physics tutor on Android.

Sept. 2009 – June 2010 **Research Assistant**, *University of Washington*, Seattle, WA.
- Built an HTML Canvas-based player to display dynamically generated animations of flow cytometry data using HTML, CSS, and Javascript.
- Used Python to produce a KML visualization in Goolge Earth from flow cytometry data.

Projects

Fall 2012 **Souffle Tutor**.
- Designed and built a speech-controlled iPhone cooking app for a class.
- Used CMU Sphinx (via OpenEars) for speech recognition.
- Gathered a corpus of mock voice interactions with users to use as training examples.
- Implemented a naive Bayes classifier to discern user intent in speech recognition output.

Summer 2009 **Research Experience for Undergraduates**.
- Implemented random sampling for a geometric object called a branched polymer.
- Formulated conjectures regarding properties of random branched polymers (e.g., degree distribution, degree sequence, radius) based on a large number of samples.