

# Michelle Fullwood

## about

Cambridge, MA  
maf@mit.edu  
www.mit.edu/~maf  
github.com/michelleful

## programming

Python, Django, Flask  
JavaScript, jQuery  
R, Scala, Matlab  
SQL, git

## languages

native English  
advanced French  
Mandarin  
intermediate Arabic  
elementary Japanese  
Hungarian

## awards

National Science Foundation  
2011 NSF Graduate  
Research Fellowship  
Cornell University  
2004 Merrill Scholar  
2001 College Scholar  
2000 Dean's Scholar  
2002, 2004 Achievement  
Awards in Arabic  
2000–2004 Dean's List  
Government of Singapore  
2000 PSC Overseas  
Merit Scholarship

## community involvement

Event organizer & tutor  
PyLadies Boston  
Speaker  
Boston Python  
PyLadies Boston  
lightning talk PyCon 2014

## summary

**Available September 2015.** Computational linguist with 10 years' programming experience. Background in speech & natural language processing and full-stack web development.

## education

- since 2010 **Ph.D. program in Linguistics, Massachusetts Institute of Technology**
- Research on problems in computational morphology and formal phonology
  - Coursework in linguistics, statistics, and machine learning
  - Teaching assistant in introductory linguistics and phonology
- 2000–2004 **B.A. in Linguistics and Mathematics, Cornell University**
- Graduated *magna cum laude* and with distinction in all subjects, 4.0 GPA
  - Study abroad, Fall 2003: Budapest Semesters in Mathematics

## experience

- 2008–2010 **Web Developer, Imperial Consulting** Boston, MA
- Developed custom web applications, front and back end, in Python, Django and jQuery, for clients in education, biomedical and finance industries
- 2008–2009 **External Consultant, Centre for Strategic Infocomm Technologies**
- Advised client on evaluation procedures in speech and natural language processing
- 2004–2008 **R&D Engineer, later Consultant, Centre for Strategic Infocomm Technologies** Singapore
- Researched techniques and built engines for speech recognition, language and speaker identification, and cross-language information retrieval
  - Managed projects to evaluate and acquire systems
- 2004 **Summer Intern, PARC** Palo Alto, CA
- Engineered a computational Lexical Functional Grammar to cover the basic sentence constructions of Modern Standard Arabic
  - Built a root-and-pattern-based finite state Arabic morphological analyzer

## projects

- since 2012 **Bayesian inference of non-concatenative morphology** MIT
- Extended state-of-the-art Bayesian techniques for morphological learning to the more complex case of non-concatenative morphology (Arabic, Hebrew)
  - Wrote a Markov Chain Monte Carlo (MCMC) sampler in Python to perform inference on a probabilistic model of non-concatenative morphology
- 2014 **Fuzzy Arabic Dictionary** fuzzyarabic.herokuapp.com
- Developed a novel Arabic learners' dictionary that can be queried via non-exact transliteration, mashing up the Yamli transliteration service and Buckwalter Arabic Morphological Analyzer
- 2014 **Stressifier** stressifier.herokuapp.com
- Developed an English learning aid that highlights stressed syllables in user-input sentences, using Flask, NLTK and m2m-aligner.