Harish Narayanan

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Summary of qualifications

Experienced researcher with expertise in mathematical modeling of natural phenomena and developing sophisticated scientific software that is easy to use and extend

Self-motivated learner comfortable with a range of technologies across the full web stack

Demonstrated communication skills and ability to work effectively as part of multidisciplinary teams

Experience

2012 – Founder, *Mechanics Academy*

Architecting and prototyping a system that offers select scientific computing software as a service

Designing and prototyping a mechanics education web app that employs this service to engage learners with interactive, application-relevant simulations

Presenting the project to different audiences and writing grant proposals to secure funding for further development

2008 – 2012 Postdoctoral fellow, *Center for Biomedical Computing, Simula Research Laboratory, Norway*

Devised robust numerical algorithms and worked collaboratively with small teams on developing sophisticated yet easy-to-use scientific software

Successfully applied these tools to help better understand a range of physical phenomena in biomedicine and broader fields

Co-advised one doctoral student and assisted others with their research and programming

2002 – 2008 Research assistant, *Department of Mechanical Engineering, University of Michigan*

Acquired a range of technical skills and knowledge in applied mechanics, mathematical modeling and scientific programming

Collaborated closely with domain experts to solve physiologically-relevant problems in biomedicine

Effectively communicated complex concepts to various audiences through numerous journal articles, book chapters, talks at conferences, research web pages and classroom instruction

Other relevant experience

2002 – Creating and administering multiple websites, both for personal use and for other groups

2007 – Developing and supporting numerous utilities and scripts, e.g. Dorsal, a simple package management and build system for scientific computing software

2003 – Associate member of the *Free Software Foundation* and contributor to different open source projects, e.g. *Stanford's Class2Go* (documentation), *The FEniCS Project* (patches, build system, website, applications), *WordPress* (patches) and *The GIMP* (website, documentation)

2003 – 2008 Served as the system administrator for the Computational Physics Group at the University of Michigan, helping keep machines running and assisting students install and optimize software

Select technical skills

Languages: Python, Ruby, Octave, R, C++, SQL, PHP, FORTRAN

Web: HTML, CSS, jQuery, Ruby on Rails, Django, WordPress

TDD and BDD: RSpec, Cucumber

Scripting: Bash, AppleScript, Unix and GNU userland tools

Revision control: Mercurial, Git, Bazaar, Subversion

Typesetting and graphics: LaTeX, Photoshop, Inkscape, Gnuplot

Environments: OS X, Linux, Windows, iOS

Education

2012 Courses on modern web development and user experience design, *edX and Coursera*

2003 – 2007 Ph.D. in Mechanical Engineering and Scientific Computing, *University of Michigan*

2003 – 2006 M.S. in Mathematics, *University of Michigan*

2002 – 2003 M.S.E. in Mechanical Engineering, *University of Michigan*

1998 – 2002 B.E. in Mechanical Engineering, *University of Madras, India*
Awarded the *Sir C. P. Ramaswamy Aiyar Endowment Scholarship* in 2001–2002 for excellent academic performance