NEIL GIRIDHARAN

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EDUCATION

UNIVERSITY OF CALIFORNIA, BERKELEY **Berkeley, CA**
Major in Computer Science **2016 - 2020**

- Major GPA: 4.0
- Coursework: Structure and Interpretation of Computer Programs, Linear Algebra and Differential Equations, Data Structures, Discrete Math and Probability Theory, C++ for Programmers

EXPERIENCE

PARALLEL AND CLOUD COMPUTING LAB **Oxford, OH**
Collaborative Researcher **Oct. 2013 - 2016**

- Developed a comprehensive stochastic individual-based simulation in place of a limited differential equation model (Java) that inhibited H5N1 evolution by up to 60%
- Automated data collection by building pipelines and tools to sift through thousands of simulation runs and determine the best parameter settings (Shell, Python)
- Calibrated simulation so that it maintained 90%+ accuracy across all metrics to scraped H5N1 surveillance data

SOUTHWEST OHIO GIVECAMP **Mason, OH**
Software Developer **Oct. 2013**

- Built Identitree Android Application that identified local trees in Ohio for Camp Joy (a nonprofit)
- Implemented JSON parsing logic to track the progression of user choices and display appropriate images and data (Java)
- Published on the Google Play Store: 1000+ downloads

INTERALLIANCE **Blue Ash, OH**
Product Development Intern **Summer 2013**

- Brainstormed with Executive Director and Central Office Business Coordinator to develop Business Requirements for a Timesheet Application
- Designed mockup wireframes and workflows in the Balsamiq wireframing tool that demonstrated increased efficiency over Excel-based process

PROJECTS

EASY VOTE - CALHACKS 3.0 **Nov. 2016**

- Built a mobile web app using Python and Django that automatically registered users to vote based on the barcode of their ID
- Automated voting process by using the Python Mechanize library to upload barcode to a barcode decoder web service and automatically fill out the online voter registration form

TRULY RANDOM BIT GENERATOR **Nov. 2012 - 2014**

- Implemented a truly random bit generator in Java by using mouse movements, static images, and phone sensors (accelerometer, gyroscope) as sources of entropy
- Won 5+ Awards and Scholarships at local and state science fairs
- Tested using NIST and ENT statistical random number generator test suites, showing true randomness across all metrics

PUBLICATIONS

- **Neil Giridharan, Dhananjai M. Rao,** ”Eliciting Characteristics of H5N1 in High-Risk Regions Using Phylogeography and Phylodynamic Simulations” in **IEEE Computing in Science and Engineering Special Issue in Discrete Modeling and Simulation**

TECHNICAL SKILLS

- Java, Python, Amazon Web Services, C++, Scheme, SQL, JavaScript, Shell Scripting, Vim, Git, Eclipse, Subversion