657 Everett Ave #4, Palo Alto, CA 94301
(918) 407−2319

# Onkur Sen

onkursen@gmail.com
github.com/onkursen

## EDUCATION

**Rice University**, August 2010 — May 2013
Bachelors of Science in Mathematics and Physics
Minor in Computational and Applied Mathematics
GPA: 3.55/4.00

## ACADEMIC HONORS

| | |
|---|---|
| Rice Trustee Distinguished Scholar | August 2010 |
| Rice Century Scholar | August 2010 |
| Robert C. Byrd Scholar | May 2010 |
| National Merit Scholar | March 2010 |

## SOFTWARE ENGINEERING EXPERIENCE

**Palantir**, Forward Deployed Philanthropy Engineer — **Python, Java** | May 2013 — Present
- Forward deployed engineer with philanthropy team
- Integrated parcel data on sites affected by May 2013 Oklahoma City tornado to aid disaster relief efforts by Team Rubicon
- Developing global/public health instance combining open public data, custom metrics, and innovative visualizations

**Plum District**, KPCB Engineering Fellow — **Ruby/Rails** | May 2012 — August 2012
- Implemented tracking mechanism for Remarketing, Omniture, and Google Analytics
- Fixed view of past offers in business center and corrected redemption of vouchers and deals

**TripAdvisor**, Software Engineer Intern — **Java/Velocity** | December 2011 — January 2012
- Removed cross-site scripting (XSS) vulnerabilities and implemented JavaScript escaping for text
- Improved relevance of display of Facebook likes, ratings, and recommendations

## RESEARCH

**Searching for Supersymmetric Top Quarks at the LHC** — **Python** | Fall 2012 — present
- Using boosted decision trees in ROOT TMVA to isolate decay of squarks from background top-top interactions
- Extending on phenomenological data and theory from Bhaskar Dutta et. al. (Texas A&M)

**Melody Analysis and Harmony Generation** — **Python** | Fall 2011 — Fall 2012
- Modeled common practice music theory with respect to key structures
- Determined key of input scores given only melodic line; also generated complementary harmonic progression
- ⟶ **Preprint:** Sen, O. and Stallmann, K. Analysis of Melody Through Key Definition and Generation of Complementary Harmonies. Rice Undergraduate Research Symposium. Houston, TX, April 13, 2012.

**Computationally Generating Musical Variations** — **Java** | Fall 2009 — Fall 2011
- Created systematic framework for representing musical scores
- Used genetic algorithms to create variations on themes
- ⟶ **Publication:** Sen, O. Creating Musical Variations Using Genetic Algorithms. *American Junior Academy of Sciences*. Washington, DC, February 16−20, 2011.

**Social Networks and Norm Emergence** — **Java** | Fall 2008 — Summer 2009
- Built social networks with different topologies and behavioral patterns
- Analyzed comparative speed of emergence of a norm in the networks
- ⟶ **Publication:** Sen, O. and Sen, S. Effects of Social Network Topology and Options on Norm Emergence. *Lecture Notes in Artificial Intelligence* Vol. 6069, p. 211−222, Springer-Verlag, 2010.

**Social Dilemmas and Aspiration Levels** — **Java** | Fall 2007 — Summer 2009
- Developed algorithmic approach to solve the Tragedy of the Commons in a multi-agent system using aspiration levels
- Formulated mathematical model placing an upper bound on convergence time
- ⟶ **Publication:** Sen, O. and Sen, S. Solving the Tragedy of the Commons by Adapting Aspiration Levels. *Proceedings of COIN@IJCAI09*. San Diego, CA, July 11, 2009.

## PROJECTS

| | | | |
|---|---|---|---|
| **Rice University Catalyst**: website | catalyst.rice.edu | **HTML/CSS** | 2011—2013 |
| **Rice University South Asian Society**: website | sas.rice.edu | **HTML/CSS** | 2011—2013 |
| **Sangleet**: wrote/choreographed/directed a 15-minute musical | bit.ly/sangleet | | 2011 |

## ACTIVITIES

**Rice University South Asian Society**: co-president (2012—2013), treasurer (2011—2012)
**Rice University Catalyst**: co-editor-in-chief (2012—2013), executive editor (2011—2012)
**Will Rice College**: academic fellow (2012—2013)
**Partnership for Advancement & Immersion of Refugees**: volunteer/photographer (2010—2011)