Sam Stewart

Education

PhD Candidate, Math, University of Minnesota (Minneapolis, MN) 2020
MS, Math, University of Minnesota (Minneapolis, MN) 2017
BS, Math, Lewis & Clark College (Portland, OR) 2011-2015
Budapest Semesters in Mathematics (Budapest, Hungary) 2014

Work Experience

Intern at Wolfram Research 2019

- Wrote bridge between Mathematica and cvxpy (Python optimization framework) that will shipped with the October production release

Tractors for Africa (Burkina Faso) 2017

- Sole language and cultural liaison between US team and local team in a rural town in Burkina Faso

Contract Developer, Upsight Analytics (Portland, OR) 2013-2015

- Wrote entire Android advertising framework that served millions of ads per month

iPhone Development Intern, SeatMe (San Francisco, CA) 2011

- Wrote core UI components now used by hundreds of restaurants

Research Experience

Graduate Research Assistant (Minneapolis, MN) 2015-2020

- Designed a fast algorithm for large simulations of elliptical sand particles
- Fourier analysis in Matlab to prove conjectures about a fluid model
- Proved error bound on sparse approximation to an MRI inverse problem

Summer Undergraduate Research Experiences (Portland, OR) 2012-2015

Skills

- **Programming:** Linux, Git, Python, C/C++, Mathematica, Matlab, R, Julia, Java
- **Math:** PDEs, convex optimization, Fourier analysis
- **Languages:** French (fluent)

Papers

- Sverak, Vladimir, Samuel Stewart. *Modeling Elliptical Granular Media via a Locally Convex Program*. In preparation.
- Gutierrez, Alex, Gilad Lerman, Samuel Stewart. *Bounding the Error of a Sparse Approximation to an MRI Inverse Problem*. In preparation.
- Jia, Hao, Samuel Stewart, and Vladimir Sverak. *On the De Gregorio Modification of the Constantin–Lax–Majda Model.* Archive for Rational Mechanics and Analysis 231.2 (2019): 1269-1304.
- Basaldúa, Jacques, Samuel Stewart, J. Marcos Moreno-Vega, and Peter D. Drake. *Two online learning playout policies in Monte Carlo Go: An application of win/loss states.* IEEE Transactions on Computational Intelligence and AI in Games 6.1 (2013): 46-54.
- Daly, K., Gavin, C., Montes de Oca, G., Ochoa, D., Stanhope, E., & Stewart, S. *Orbigraphs: a graph-theoretic analog to Riemannian orbifolds.* Involve, a Journal of Mathematics 12.5 (2019): 721-736.

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