# Sam Stewart

## Education

2020

**PhD Candidate, Math, University of Minnesota** (Minneapolis, MN)

2017

**MS, Math, University of Minnesota** (Minneapolis, MN)

2011-2015

**BS, Math, Lewis & Clark College** (Portland, OR)

2014

**Budapest Semesters in Mathematics** (Budapest, Hungary)

## Work Experience

2019

**Intern at Wolfram Research**

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

2017

**Tractors for Africa (Burkina Faso)**

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

2013-2015

**Contract Developer, Upsight Analytics (Portland, OR)**

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

2011

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

* Wrote core UI components now used by hundreds of restaurants

## Research Experience

2015-2020

**Graduate Research Assistant (Minneapolis, MN)**

* 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

2012-2015

**Summer Undergraduate Research Experiences (Portland, OR)**

## 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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