Jessica Su
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Education

- **Stanford University** — Palo Alto, CA
  PhD student, Computer Science — *September 2013 - present*
- **California Institute of Technology** — Pasadena, CA
  B.S., Computer Science (3.8 GPA) — *September 2007 - June 2013*

Experience

- **Stanford Theory Group** — *Research Assistant, Winter 2014 - Present*
  - Designing voting systems that encourage people to come to consensus on issues.
- **Stanford InfoLab** — *Research Assistant, Fall 2013 - Present*
  - Designing algorithms to generate random graphs with specific subgraph counts.
- **SKIES** — *Intern, Summer 2013*
  - Built image search for a collaborative education app.
- **Caltech Department of Mathematics** — *Intern, Summer 2011*
  - Proved that Tutte polynomials do not satisfy the Kontsevich conjecture.
- **FAU Department of Complex Systems and Brain Sciences** — *Intern, Winter 2010*
  - Used nonlinear differential equations to model therapist-client interactions.
  - Solved the equations of the model analytically.

Projects

- **An analysis of congressional tweets** — *Spring 2013*
  - Scraped tweets made by congresspeople and used MySQL to correlate them with relevant characteristics of the user.
- **Netflix challenge** — *Fall 2012*
  - Used machine learning to predict movie ratings from training data.

Publications

- **8 publications** total (see page 2). One paper published in *Science*. Research featured in **Scientific American**, New Scientist, Smithsonian Magazine.

Skills

- **Computer skills:** Python, Unix, C++, Java, MATLAB, MySQL
- **Classes:** Algorithms, systems, machine learning, databases, social network analysis, graph algorithms, complexity theory, computability theory, real analysis, abstract algebra, stochastic processes, combinatorics, dynamical systems, quantum mechanics

Awards

- Lingle Scholarship (2007, awarded to top two freshmen in incoming class)
- Axline Scholarship (2007, full ride merit scholarship)

Journal articles

- Marcolli M and **Su J** (2013) Arithmetic of Potts Model Hypersurfaces. International Journal of Geometric Methods in Modern Physics 10-4. arXiv:1112.5667 [math-ph].
- Liebovitch L, Peluso P, Norman M, **Su J**, Gottman J (2011) Mathematical model of the dynamics of psychotherapy. Cognitive Neurodynamics 1-11.
- Peluso P, Liebovitch L, Gottman J, **Su J** (2011) A mathematical model of psychotherapy: an investigation using dynamic non-linear equations to model the therapeutic relationship. Psychotherapy Research.
- Ward C, **Su J**, Huang Y, Lloyd A, Gould F, Hay B (2011) Medea selfish genetic elements as tools for altering traits of wild populations: a theoretical analysis. Evolution 65:1149-1162.
- Hay B, Chen CH, Ward CM, Huang H, **Su JT**, Guo M (2010) Engineering the genomes of wild insect populations: Challenges, and opportunities provided by synthetic Medea selfish genetic elements. Journal of Insect Physiology 56(10):1402-1413.
- Chen CH, Huang H, Ward CM, **Su JT**, Schaeffer LV, Guo M, Hay BA (2007) A synthetic maternal-effect selfish genetic element drives population replacement in Drosophila. Science 316:597-600.

Conferences

- M.D. Norman, L.S. Liebovitch, P.R. Peluso, **J. Su**, J.M. Gottman. Mathematical Model of the Dynamics of Psychotherapy. International Conference on Complex Systems, June 2011, Cambridge MA.
- L. S. Liebovitch, P. R. Peluso, **J. Su**, J. Gottman. 2010. Mathematical Model of Psychotherapy - A New Approach to Understanding the Therapeutic Relationship. Association for Psychological Science, May 29, 2010, Boston MA.