

# Grace S. Tang

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## CURRENT POSITION

*Data Scientist, 99.co*

As the 11th employee and first data scientist of a rapidly-growing startup, I have had the opportunity to independently plan and execute a wide range of projects across various teams.

- *ListRank*, a search-ranking algorithm for property listings.
- A user-based collaborative-filtering recommendation service, from algorithm-development to email delivery.
- Three recommendation engines for in-page recommendations. The content-based *Similar Listings Nearby* recommender increased listing views by 5%.
- Image detection to detect 4 categories of undesired photo elements.
- Outlier and duplicate detection, which detects about 300 inaccurate listings a day.
- Researched, evaluated, and implemented the use of Kinesis for communication between certain microservices.
- A/B experiments - determined optimal search filter design and default sort order.
- Maintain business intelligence dashboard, perform ad hoc queries for business team, and create scheduled recurring reports.
- Researched and implemented new ETL pipeline, data warehouse, and visualization layer.
- Built and maintain various other backend microservices: Metadata (e.g. when user was last seen online), developments, and analytics.
- Built system for scheduled emails e.g. new unit alerts, weekly recommendations.
- Built a prototype for a consumer-facing development review site.
- Mentored 3 team members in the use of Python, Linux, Git, MongoDB, Supervisor, tmux, AWS.

## SKILLS

- Python, R, Matlab
- Machine learning, statistical modeling, signal and image processing
- Experimental and survey design, online survey methodology
- Web: HTML5 / CSS3 / Javascript, frameworks such as Django, Flask, Tornado, Ruby on Rails

**DATA  
ANALYTICS  
PROJECTS**

*Confidential Technology Company (900 Employees)*

- Collaborated with two other Stanford researchers to determine predictors of employee performance, and develop new techniques to assess potential hires.

*Stanford Alumni Association*

- Analyzed SAA social media data to make recommendations to increase alumni engagement.
- Assessed effectiveness of donation solicitation methods to increase donor conversion among alumni.

**RESEARCH  
EXPERIENCE**

*Decision Neuroscience Lab, Stanford University*

- Used machine learning on large fMRI datasets to determine factors that drive the perception of pleasantness in olfactory stimuli, and effects on risk-taking behavior.
- Investigated the effects of brain-region-specific GABA (neurotransmitter) levels on decision-making.
- Developing open source tools to analyze Magnetic Resonance Spectroscopy data.

*Cognitive Neuroscience Lab, Duke-NUS Graduate School of Medicine*

- Studied cognitive effects of sleep deprivation using fMRI.

*Genome Institute of Singapore*

- Constructed protein interactome map of BAPX1 in zebrafish.

**OTHER  
EXPERIENCE**

*Computer TA - Stanford Psychology Department*

- Provided software and hardware support to the Psychology department, constructed websites for faculty, courses, a department-wide teaching wiki and lab-specific wiki.

*Stanford Computer Forum*

- Assisted with and evaluated technical talks by industry partners.

**EDUCATION**

PhD, Psychology (Neuroscience) *Stanford University, 2014*

BSc, Biology (Neuroscience) *University of Wisconsin, Madison, 2007*

**TEACHING**

*Stanford University* : Human Neuroimaging (Psych 204A), Web applications (CS 142), Matlab and PsychToolBox for the Behavioral Sciences (Psych 233), Intro Psychology (Psych 1)

*General Assembly* : "What is Data Science?"

**PUBLICATIONS** *Journal Articles*

- Tang, G.S., Van den Bos, W., Andrade, E.B., McClure, S.M. (2012). Social anxiety modulates risk sensitivity through activity in the anterior insula. *Frontiers in Decision Neuroscience* 5: 142.

*Conference Presentations*

- Multiple Determinants of Pleasantness in Olfactory Stimuli (Neuroeconomics 2012)
- Scents and Sensibility: Dimensionality Reduction on Neural and Behavioral Responses to Aromas (Google PhD Summit 2013)
- A Computational Neuroscience Approach to Identifying Drivers of Subjective Pleasantness in Olfactory Stimuli (Society for Neuroscience 2013)
- A Role for Striatal GABA in Human Action Selection (Association for Psychological Science, 2014)

**EXTRA-  
CURRICULAR  
ACHIEVE-  
MENTS**

*Hackathons*

- Won awards at 8 hackathons in the past 4 years.

*Science Fiction*

- 5 publications in Nature Futures Sci-fi column.