JIANFENG CHEN

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Simplified models are efficient & beautiful. I believe the future of SE lies in simplifying complex software systems using Machine Learning.

EDUCATION

Doctor of Philosophy in Computer Science Aug 2014 - Dec 2018 (expected)
North Carolina State University, GPA: 3.97/4.0
Coursework: Data Mining | DevOps | Advanced AI | Algorithm Analysis | Graph Theory | Automated SE

Bachelor of Engineering in Computer Science Sep 2010 - May 2014
Shandong University, China, GPA: 91.1/100
Coursework: Data Structure | OS | Networking | Database System | numerical analysis | Image Processing

SKILLS AND STRENGTHS

Languages	***Proficient:*** Python | Java | LaTeX; ***Familiar:*** JavaScript | MatLab | SQL | C/C++
Data Analysis Tools	Scikit-learn, SciPy, jMetal, Gephi
DevOps Tools	Jenkins, Ansible, Travis-CI, AWS Elasticsearch, S3, Docker

INTERNS AND PROJECTS

(Intern) Brahms Model Verification with Java Pathfinder platform May 2016 - Aug 2016
Intern in Google Summer of Code program 2016

- Accepted by Google `GSoC2016` program among 18,981 applicants **(accept rate: 6%)**.
- Basing on the `JPF` platform, found the most promising sub-state space in the NASA `Brahms` models.

Sampling vs. Searching in Configuring Large Software Systems Dec 2014 - Present
NSF funded project in RAISE Lab

- Created a fast sampling technique to replace the common MOEA in Search-based Software Engineering.
- By combining SAT solvers with software product lines, found a way to configure large software systems **2000 times faster**.

LACE Data Privatization Tools and its Application Aug 2016 - Nov 2016
NSA funded project in RAISE Lab

- Implemented the Large-scale Assurance Confidential Environment (LACE) in python; released the code and documents to `python package index (pip)`.
- Applied LACE algorithm to business and medical data sets. Evaluated the privatization by adversarial accuracy gain, association rules and correlation matrix.

Building Movie Recommendation System Aug 2015 - Dec 2015
"Netflix Prize" completion extension

- Worked in a team of three to build a movies rating prediction and recommendation system.
- Trained from 100 million `Netflix ratings` by Decision Tree, SVM and ANN.
- Deployed the training process into high performance computing (HPC) server by MPI modules.
- Crawled cast, critic reviews from *rotten tomatoes* and classified the movies basing on Jaro-Winkler Distance.

PUBLICATIONS

[1] **Chen, J.**, Nair, V., Krishna, R., and Menzies, T.. Is "Sampling" better than "Evolution" for Search-based Software Engineering.arXiv preprint arXiv:1608.07617 (2016).

[2] Nair, V., Menzies, T., and **Chen, J.**. An (accidental) exploration of alternatives to evolutionary algorithms for SBSE. International Symposium on Search Based Software Engineering, 2016.

[3] Yang, Y., Zeng, W., and **Chen, J.**. Equiareal parameterizations of NURBS surfaces. Graphical Models 76.1 (2014): 43-55.