Chen Zhang

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Summary

- Seeking internship as a software engineer or data infrastructure developer in innovative growing companies.
- With solid computer science background, data science capabilities, engineering expertise and research skills.

Skills & Knowledge

Languages: Java, C, C++, Python, Matlab, Javascript, HTML/CSS, Ocaml, SQL.
Data analysis: Machine Learning, Deep Learning, Information Retrieval, Spectral Analysis, Regression.
Development: SE Principles, OOP, MEAN Stack, Data Structure & Algorithms.
Systems: System Programming, Operating System, Distributed Systems, Embedded Systems, Network & Security
Simulations: Numerical Analysis, Finite Element, Finite Difference, Computational Mechanics, CFD
Tools: TensorFlow, Chainer, Weka, Jenkins, JUnit, MongoDB, AngularJS, NodeJS, Unix, dsPIC33, WireShark, Nmap

Education

2014 – 2017	**Doctor of Philosophy**	Aerospace Engineering	*University of Illinois at Urbana-Champaign (UIUC)*	GPA 3.9
2011 – 2014	**Master of Science**	Civil Engineering	*University of Illinois at Urbana-Champaign (UIUC)*	GPA 3.95
2007 – 2011	**Bachelor of Science**	Civil Engineering	*Southeast University, China*	GPA 3.8,

Selected Graduate Courses

Algorithms, Software Engineering, Advanced Information Retrieval, Machine Learning, Deep Learning, Operating System Design
Advanced Distributed Systems, Advanced Database Management, Web Application Programming, Topology Optimization Methods
Embedded Systems, System Programming, Mathematical Statistics, Numerical Methods to PDEs, Data Structure

Selected Projects

- Information Retrieval: We developed an open-source package that automatically generates search query logs based on assigned documents using a given corpus. It makes use of Rocchio's algorithms and query thesaurus to expand and demote queries.
- Deep Learning: We implemented the algorithm of image style transfer using convolutional neural network (CNN) based on VGG model. We used Tensorflow and explored the effects of different layers to fully understand this novel approach.
- Software Engineering: We extended a Jenkins plugin that displays the statistics of test cases. The plugin is extended to have statistical tracking, individual test class analysis and restructure of test result demonstration. We also wrote Junit and jasmine tests for the plugin.
- Web Programming: We wrote a social web app where a person can create account, invite friends, initiate events, upload pictures to an event and share an event and corresponding pictures with friends. We used MEAN stack as framework and passport for authentication.

Research and Teaching Experiences

Numerical Simulation of Thin Film Failure in Microelectronic Devices   *UIUC*

Wrote numerical simulator for the process of thin film failure in microelectronic devices. Programming languages used include C++, Fortran and Matlab. Performed molecular dynamic simulation and evaluated intrinsic properties of gold interfaces.

Modeling of MicroVascular Fluid Heat Exchanger   *CU Aerospace − Lockheed Martin*

Built model, performed simulation on the fluid-thermal problem, and extracted methods to improve thermal performance.

Teaching Assistants   *UIUC*

System and Control Labs, Numerical Analysis, Finite Element Methods

Journal and Conference Papers

- Effects of interface roughness on cohesive strength of self-assembled monolayers, *Applied Surface Science, 2016*
- Multi-scale model of effects of roughness on the cohesive strength of self-assembled monolayers, *submitted*
- A multi-scale framework on capturing the effect of roughness on the cohesive strength of self-assembled monolayers *International Mechanical Engineering Congress Exposition, 2015*
- Effects of interface roughness on cohesive strength of self-assembled monolayers, *Society of Engineering Science, 2014*