

# Zeng Dai

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## Professional Experience

### Research Engineer, IoT Group, Bosch, China

Aug 2016 – Present

- Architected scalable sensor-guided visualization system for Industry 4.0
- Continued to deliver research prototypes into Bosch map product
- Scouted and built HMI competence in Shanghai

### Research Scientist II, Visual Computing, Bosch, USA

July 2015 – July 2016

- Conducted R&D for Bosch sensor-guided 3D visualization system for industry 4.0
- Led R&D of visual computing topics for CES 2016 tech demo.
- Transferred research prototype to Bosch map product

### Software Development Engineer, Product & Service Discovery, Amazon, USA

April 2014 – July 2015

- Built web application and services for Amazon retail website.
- Developed business logics for retail purchase document data extraction for bundle product.
- Implemented backend logics to process backend transaction data in large scale.

### Research Intern, 3D Graphics & System, Bosch Research, USA

May 2013 – Nov 2013

- Conducted R&D for Context Aware HD Art Map on PC/embedded platform (Android).
- Built a cross-platform UI framework for the internal R&D system.
- Built a streaming server platform for distributed 3D visualization applications.
- Researched and prototyped several innovative real-time rendering technologies.

### Research Engineer, Real-time 3D Landslide Simulation, Tindsun, China

Mar 2010 - June 2010

- Conducted R&D of water visualization and physics simulation system.
- Designed & built the tool framework for simulation system based on GameBryo Engine.

### Software Engineer, RaymanHD, Ubisoft, China

Jun 2008 - May 2009

- Implemented an extensible and physical based camera system for RaymanHD.
- Prototyped several advanced graphics algorithms for internal game engine.
- Contributed tools beside responsibilities, e.g. real time memory profiling tree layout display, animation spline curve editor etc.

### Software Engineer Lead, TankWar 3D-Multiplayer, Ubisoft, China

Mar 2008 - Jun 2008

- Architected & built game framework for team collaboration.
- Built the graphics components integrating several graphics algorithms for special graphical effect.
- Led 6 programmers team: helped solve technical problems; reviewed code; collaborated with project managers.

### Teaching Assistant, University of Iowa, USA

Sep 2011 - May 2013

- Taught C++/Python programming.
- TAed P2P Social Network, Discrete Structures, Fundamentals of Software Engineering etc.

## Technical Skills

<b>Language</b>	C++/Java, Python, JavaScript, Shell, HTML/CSS, SQL, HLSL/GLSL, Scala, CUDA, Lua, C#, Matlab, ActionScript, Verilog
<b>Stacks</b>	MEAN, PouchDB, Play/Spring/J2EE, CppCMS, Ionic, DirectX/OpenGL(ES)/WebGL, Electron, ReactJS, Open Scene Graph, Android NDK, Socket, OptiX, PhysX, OpenCV, MFC/Qt
<b>Tools</b>	Vim+Tmux, Git, Build & Deploy, Eclipse/IntelliJ/VisualStudio
<b>Platform</b>	Linux/Unix/Cloud/Android/Windows

## Selected Personal Projects

Please see <http://daizeng1984.github.io> for more details.

<b>Audio Logger</b>	A mobile app to log speech into text and save it on the cloud. <ul style="list-style-type: none"><li>➤ Ionic 2.0 mobile client with Angular, PouchDB</li><li>➤ NodeJS server with CouchDB and Superlogin</li></ul>
<b>Vim and Tmux Plugins</b>	Plugins that is to improve my workflow experience under Vim+Tmux <ul style="list-style-type: none"><li>➤ Vim Feeling Lucky Plugin (Vimscript/Python)</li><li>➤ Tmux Dustline (Tmux shell script)</li><li>➤ Vim Word Hint Doctor (Vimscript/Python/Deoplete)</li></ul>
<b>Github Contributor</b>	Jumped into the code waterpool and fixed bugs that I found along using them <ul style="list-style-type: none"><li>➤ vim/taskwiki</li><li>➤ ranger</li><li>➤ phoenix.js etc.</li></ul>
<b>3D Graphics Projects</b>	When I was working on 3D Computer Graphics <ul style="list-style-type: none"><li>➤ Point Cloud Sampling for Glossy Material</li><li>➤ Time Rough Material (Etched Glass) Refraction</li></ul>
<b>Older Projects</b>	More projects worth mentioning <ul style="list-style-type: none"><li>➤ Built a functional compiler of Falcon (a C-like language)</li><li>➤ Image Processing Projects to compare different registration algorithm</li><li>➤ Built an web game for image labeling (human computing)</li></ul>

## Education

2011-2014	<b>MSc, Computer Science</b>	<i>The University of Iowa, US</i>
2006-2009	<b>MSc, Mathematical Statistics</b>	<i>Sichuan University, China</i>
2002-2006	<b>BSc, Applied Mathematics</b>	<i>Sichuan University, China</i>

## Other Activities

CES 2017 China	2017
CES 2016 Bosch TechX Demo	2016
SIGGRAPH	2015,2013,2012
I3D 2012 (Presenter)	2012
The Mid-West Graphics Workshop (Presenter)	2012,2011
Microsoft Technology Club, Sichuan University	2006,2007

## Personal

➤ [Website](#)

- Have one lovely son 🧑 with my wife
- While not working, enjoy play 🧸, 🎮, 📺 and go to nature 🌲.

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## References

On Query