Ziyi Chen

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Education

- **University of California, Santa Cruz** — Santa Cruz, CA
  Master of Science in Computer Science — *Sep. 2016 – Dec. 2017(expected)*
  - **Major courses**: Algorithm Analysis, Image Processing and Computer Vision, Data Visualization, Computational Model of Discourse and Dialog, Programming Languages, Data Mining

- **College of Computer Science, Zhejiang University** — Hangzhou, China
  Bachelor of Engineering in Digital Media Technology — *Sep. 2012 – June. 2016*
  - **GPA**: Overall: 3.82/4.00 Major: 3.94/4.00
  - **Major courses:**: C Programming, Data Structure, Database System, Object-Oriented Programming, Operating System, Artificial Intelligence, Computer Graphics, Computer Game Programming

Experience

- **Hangzhou Aika Co.** — Hangzhou, China
  Web Development Intern — *Mar 2016 - Apr 2016*
  - **Font End & Back End**: Designed a web application using **AJAX** which allows users to control real world game progress via smartphones. Built the back end service with **Node/Express** which receives commands from mobile phones and send signals to hardware.

- **State Key Lab of CAD&CG, Zhejiang University** — Hangzhou, China
  Research Assistant — *Mar 2016 - Jun 2016*
  - **3D Rendering**: Implement an interactive high-performance 3D viewer based on **WebGL** that renders house and furniture in real time.
  - **Model Editor**: Built a 3D model editor with **JavaScript**. Users are allowed to add/remove components (furniture) into the 3D space. It also supports importing 3D components from CEMO(a 3D model format based on XML) files and exporting the whole model into common 3D formats.

Projects

- **Persistent Key-Value Store from Scrach**: Implemented a KVS that supports get, set and cas operations. Memory-mapped I/O functions were used to interact with SSD. Trie-based algorithms were exploited to achieve high-performance persistent indexing.
- **Automatic Movie Rating System**: Corpus was created by crawling short comments from Douban.com, which is the most popular movie review website in Chinese. Features used include Sentence Length, TF-IDF and Sentimental Analysis. Employed SVM from scikit-lean to train the predictor.
- **Twitter Clustering and Topic Modeling**: A pipeline for tweets preprocessing was built based on *NLTK*, *CMU Twitter NLP* and *scikit-learn*. KMeans, LDA, BTM were used for clustering and topic modeling. A lexicon normalization algorithm was implemented.
- **High Dynamic Range (HDR) Camera System**: A radiometric calibration based on *scikit-learn* was implemented to recover linear raw camera data. Three different algorithms were exploited to produce the combined image.
- **JavaBucks**: A website to measure and upload current cafes location and network speed. Baidu map was packaged as *Vue* component. *Webpack* was used to bundle front end assets. Built back end service with *Node/Express* and *MongoDB* .
- **Image Completion**: Implemented a paper from SIGGRAPH 2005 based on *OpenCV*. Given user specified structure lines, the algorithm removes the object that shields certain structure in the image. A dynamic programming algorithm and a belief propagation algorithm were used to complete line structure.

Skills

- **Programming Languages**: C/C++, C#, Java, JavaScript, HTML/CSS, Python, Haskell, SQL
- **Frameworks:**: jQuery, Bootstrap, D3, Vue, Webpack, Node/Express, WebGL, OpenGL, OpenCV
- **Softwares:**: Linux, Windows, MongoDB, Dreamweaver, Photoshop, Maya, Premiere, Unity