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Chenyu HUANG

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Objective

Expected to graduate in December 2017, seeking for a **full time software development** role.

Education

University of California, San Diego (UCSD), San Diego, CA — *Sep. 2016 - Dec. 2017 (Expected)*
Master of Science in Computer Science, GPA: ***3.72/4.0***

Nanyang Technological University (NTU), Singapore — *Aug. 2012 - Jun. 2016*
Bachelor of Engineering in Electrical & Electronic Engineering, GPA: ***4.62/5.0, 1st class honors***

Work Experience

Software Engineering Intern, **Mitek System, Inc**, *San Diego, CA* — *Jun. 2017 - Sep. 2017*
- Worked in an ***Agile*** and ***Test Driven*** environment developing ***Android*** SDKs in ***Java***
- Developed and shipped MobileDocs SDK for high resolution document capture for ***Android*** devices
- Optimized existing MiSnap SDK reducing the SDK size by ***over 30%*** via dynamic asset generation
- Automated ***unit tests*** using ***JUnit*** and ***Roboelectric***, continuous build and integration with ***Jenkins***

Research Assistant, **SeeLab UCSD**, *San Diego, CA* — *Jun. 2017 - Present*
- Worked with PhD candidates developing high performance, low power ***classifiers***
- Implemented high performance ***Hierarchical Hyper Vector*** based voice ***classifier***
- Achieved the same accuracy as conventional ***Neural Network***, but with ***over 50%*** saving in energy

Software Engineering Intern, **Rolls-Royce Corporation**, *Singapore* — *Jan. 2015 - May. 2015*
- Developed data driven web applications using ***D3.js*** to visualize engine service data
- Scripted in ***Python*** to predict engine failure types using ***Bags of words*** model
- Responsive web development using ***Bootstrap, jQuery, media query etc***

Academic Projects

Column-based Scalable Database — *May - Jun 2017*
- Designed and implemented an ***NoSQL column-based*** database system in ***Java***
- Implemented the database with ***Memtable*** to store recent data and ***SSTable*** to store ***long-tail*** data
- Implemented a ***Bloom Filter*** to efficiently determine membership status of any data entry

Custom Branch Predictor — *May. 2017*
- Implemented the ***gshare*** and ***tournment*** branch predictors in ***C++***
- Designed a custom predictor in ***C++*** by combining ***gshare*** and a ***2-level local*** predictor
- Custom predictor achieves **97%** of accuracy on given test data, a **7%** improvements over *gshare*

Web Mining and Recommender Systems — *Jan. 2017 - Mar. 2017*
- Applied the techniques of ***Regression, Classification*** to build a rating predictor system in ***Python***
- Implemented a ***Latent Factor Model*** in ***Python*** to predict user ratings of their Amazon purchases
- Trained the system using 200,000 entries of anonymous review data from Amazon
- Achieved an mean square error of 12.6 for rating prediction on a scale of 100

Computer Vision — *Sep. 2016 - Dec. 2016*
- Implemented image formation of ***perspective camera model*** with different camera parameters.
- Implemented a face recognition algorithm based on ***Eigenfaces and Principle Component Analysis.***
- Implemented the ***Lucas-Kanade algorithm*** to estimate optical flow between image frames.

Probabilistic Learning — *Sep. 2016 - Nov. 2016*
- Implemented a set of learning algorithms in ***Java*** and ***Matlab***, including ***maximum likelihood, EM***
- Implemented multiple ***Markov language models***, e.g ***unigram, bigram and mixture models*** in ***Java***
- Implemented a ***Markov decision model*** for a puzzle solving agent using ***value and policy iteration***

Online Movie Ticket Reservation System — *Aug. 2015 - Nov. 2015*
- Developed a movie ticket booking system supporting seat-picking, synopsis and user rating.
- Implemented the backend with ***MySql*** and ***PHP*** to update and retrieve information from database
- Designed and implemented a ***responsive*** user interface using ***HTML, CSS*** and ***JavaScript***

Personal Projects

Android Development — *Jul. 2017*

Dark World Game for Android
- Developed a puzzle game based on the ***Model-View-Presenter*** development paradigm
- Dynamically generates puzzle maps based on player's configuration
- Implemented fully ***gesture based*** with ***buttonless*** game controls

GRE Vocabulary Builder for Android
- Developed an Android app to help students prepare for GRE verbal tests
- Connected to Android's ***text-to-speech API*** to provide pronunciations for all words
- Designed a ***relational SQLite*** database to store user performance data and support predictive search
- Connects to ***Restful API*** to provide word definition for words not in local database

Robotics Controller for Android
- Developed an **Android** app to remotely control a robot via ***Bluetooth***
- Utilized internet protocol to wirelessly stream live video (30fps) from the robot's camera

Computer Skills

Java, Python, Matlab, C++, SQL, HTML, JavaScript, CSS, PHP, Latex