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Josh Kelle

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Education

The University of Texas, Austin

5-Year Integrated Bachelors & Masters, Computer Science — May 2017
Overall GPA: 3.92

Technical Skills

Proficient in: Python, Java
Experience with: C++
Exposure to: R, MATLAB

Tools: Caffe, OpenCV
Hadoop, Cascading, Hive
NumPy, Scikit-learn, matplotlib

Experience

Pinterest, Search Quality, Intern (*San Francisco, CA*) — Summer 2016
Improved search relevancy for male users; introduced new features and trained male-specific model
Performed data analysis to identify trends and opportunity areas

Apple, Applied Machine Learning, Intern (*Cupertino, CA*) — Summer 2015
Designed and prototyped an enhanced model for product recommendations on the Apple Online Store
Technologies: Hadoop, Hive, Python, Java

Apple, iCloud Application Engineering, Intern (*Cupertino, CA*) — Summer 2014
Designed and prototyped a cluster management system that auto-scales in response to resource demand
Proposed new architecture for a specific application to make use of this new auto-scaling infrastructure

Applied Research Laboratories, Space & Geophysics Lab, Honors Scholar & Researcher (*Austin, TX*) — Summer 2013 – Spring 2015
Implemented and evaluated new special smoothing algorithms for modeling the ionosphere
Analyzed large amounts of GPS satellite data with an emphasis on data visualization

Research

RoboCup (Robot Soccer) (*Advised by Dr. Peter Stone*) — Spring 2016 - present
Designed computer vision algorithm for soccer ball detection to run on low-powered SoftBank Nao robot
Our team won 1st place in international exhibition competition in Beijing, China (October 2016)
Our team won 2nd place in international RoboCup competition in Leipzig, Germany (July 2016)
Our team won 1st place in national US Open in Brunswick, Maine (April 2016)

Intelligent Feature Extraction for Video Activity Classification (*Advised by Dr. Kristen Grauman*) — Fall 2014 - present
Devoloping a master's thesis in the areas of computer vision and machine learning

Projects

Personalized Image Aesthetic Prediction, a partner project to predict personalized star ratings of images — Fall 2016
I extracted visual features by fine tuning various convolutional nueral networks that were pre-trained on ImageNet (using Caffe)
We trained and evaluated the model using the Aesthetics and Attributes Database (AADB) dataset.

Visual Search, given a query image, retrieves relevant frames from a video corpus — Fall 2015
Implemented bag-of-words search with visual words, including visual stop words and TF-IDF
Defined the visual vocabulary by k-means clustering of SIFT descriptors

The Pacman Projects, implement fundamental Artificial Intelligence concepts — Spring 2014
A*, minimax, expectimax search; reinforcement learning; classification; Bayesian inference
Won 1st place in the Capture the Flag tournament among other honors AI students

PolyDrop, a game for the Leap Motion Controller that won 1st place in a hackathon competition — Spring 2014
Players catch falling polygons and balance them on a platform controlled with their hand
Has over 65,000 downloads on the Airspace App Store

Selected Coursework

Graduate Visual Recognition (*Dr. Kristen Grauman*) — Fall 2016
Graduate Statistical Models for Big Data (*Dr. James Scott*) — Fall 2016
Graduate Machine Learning (*Dr. Dana Ballard*) — Spring 2016
Graduate Statistics and Data Science (*Dr. Chandrajit Bajaj*) — Spring 2016
Graduate Autonomous Robots (*Dr. Peter Stone*) — Fall 2015