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Chris Powers

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EDUCATION

Aug. 2015-May 2019

University of California, Berkeley BS Electrical Engineering and Computer Science (technical GPA: 3.92)

Courses: Data Structures, Algorithms, Machine Learning, Artificial Intelligence, Operating Systems, Computer Security, Machine Structures, Probability and Random Processes, Signal and Systems, Optimization Models, Robotics

EXPERIENCE

Yelp Software Engineering Intern:

Summer 2018

- Designed and built new intuitive ads cancellation flow from the ground up while retaining key functionality
- Made it easier for thousands of advertising Yelp business users to redeem promotional offers
- Full stack development with React and Redux frontend and Python backend on the business monetization team

EECS Honor Society Officer:

Fall 2017

- Instructor for freshman seminar that surveyed EECS topics ranging from circuits and fabrication to security and AI

EE16B Course Staff:

Spring and Fall 2017

- Created review content on control systems and circuits and graded coursework for class of 400 students

ULAB Mentor:

Spring 2017

- Mentored team of 4 freshman on their research to design an automated weed-killing robot
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RESEARCH

UC Berkeley Automation Lab with Professor Ken Goldberg

June 2016-May 2018

Web Interface:

- Designed web interface for demarcating and labeling objects in images taken by the robot in real time
- Enabled communication between server and robot, and integrated with crowd-sourcing platform

Computer Vision:

- Implemented data augmentation algorithms to increase the effectiveness of limited image data
- Built custom vision tools, including contour detection to evaluate robot performance, using OpenCV

Deep Learning for Robotics:

- Applied Imitation Learning to teach a home robot bed making and an industrial robot part separation
- Used Tensorflow to implement cross validation over neural network architectures and parameters

Object Sorting System:

- Constructed reliable system by integrating web interface, image processing tools, and pile separation algorithms
- Operated on legos in the TRI hackathon and on machine shop parts in the Siemens FutureMakers Challenge

Publications:

- Laskey, M.; **Powers, C.**; Goldberg, K. "High Dimensional representations for Learning Grasping in Clutter Policies from Demonstrations." RSS Conference. 2017
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PROJECTS

Music Transcription:

Spring 2018

- Extracted sheet music from audio waveform using Fourier analysis and heuristics to segment and classify notes

Pacman Artificial Intelligence:

Spring 2017

- Created A.I. agent that won first place in player vs. player contest in class of 400 students
 - Used Q-Learning, probabilistic inference, and hidden models to calculate best move with incomplete information
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SKILLS

Programming: Python, Javascript, C, Java, Unix scripting, Robot C, SQL

Software: React.js, Redux.js, Tensorflow, OpenCV, NumPy, Git, Flask, OpenMP, HTML/CSS

Interests: Japanese language, gaming, chess, mobile apps, basketball