Braden M.H. Katzman

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Education

Class of 2017 — **Columbia University**
Bachelor of Arts, Computer Science (Intelligent Systems)
GPA 3.34
Academic Honors Dean's List (Fall 2015)

Class of 2017 — **The Jewish Theological Seminary of America**
Bachelor of Arts, Jewish Philosophy
GPA 3.61
Academic Honors Cum Laude
Academic Awards Fanny Schneyer Education Award

Columbia/JTS Dual B.A. — **Cumulative GPA** 3.48

Summer 2015 — **Stanford University**
Certificate of Completion, Summer Intensive in Computer Science

Work Experience

Present / September 2015 — **Memorial Sloan Kettering Cancer Center**, The Zhirong Bao Lab, *Software Engineer*
- Building image stack segmentation systems and 3D visual information systems for the study of C. Elegans embryogenesis, with a focus on neurogenesis.
- *WormGUIDES*, *WormGUIDES VR* 4-dimensional developmental atlas for C. Elegans embryogenesis research, built using JavaFX, Unity Game Engine - Source
- *AceTree/StarryNite* Computer vision pipeline and user interface for segmentation and visualization of C. Elegans embryogenesis. Written in Java, MATLAB, and C - Source

December 2016 / May 2017 — **Seecure Systems**, *Image Processing Engineering*
- Created object detection, recognition and tracking systems for CCTV data via deep learning
- Experience with OpenCV and Tensorflow

August 2015 / May 2016 — **Columbia University Software Systems Lab**, *Undergraduate Researcher*
- Conducted Deep Linking and Universal Sharing research on Android using the Unity Game Engine

Projects and Publications

2017 — **WormGUIDES: Assembling and Accessing an Integrated Record of Neural Development.**
Anthony Santella, Mark Moyle, Ryan Christensen, Kris Barnes, Gabriela Bosque, Leighton Duncan, Willian Duncan, Li Fan, Brandon Harvey, Richard Ikegami, Braden Katzman, Abhishek Kumar, Nhan Nguyen, Titas Sengupta, Pavak Shah, Doris Tang, Daniel Colon-Ramos, Hari Shroff, William Mohler, Zhirong Bao
Affiliations: Sloan Kettering Institute, Yale University School of Medicine, NIH Section on High Resolution Optical Imaging, UConn Health Center
Presented at 21st International C. elegans Conference - *Paper*

2017 — **Asynchronous Advantage Actor-Critic (AC3) for Robotic Grasp Planning** (In research cycle)
Jared Weiss and Braden Katzman
I'm implementing Google DeepMind's *Asynchronous Methods for Deep Reinforcement Learning* in the context of robotic grasp planning. I am modeling the network on the AC3 method presented.

2016 — **BRAEM: Supervised Classification of Single-Cell RNA Sequencing Data** (In publication cycle)
Braden Katzman and Emily Berghoff
BRAEM is a program for analyzing single-cell RNA sequencing data and determining cell classification using supervised classification algorithms

Skills

Python, Java, MATLAB, C, C++, Javascript, Deep Learning, Image Processing, 3D Graphics, ROS, VR/AR, Genome Sequencing

Interests

Photography, philosophy, open-source software, home-improvement projects, neuroscience, artificial intelligence, building machines, reading