

Helen Zhou

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Education	Massachusetts Institute of Technology (MIT) <i>B.S. in Electrical Engineering and Computer Science</i> <i>M. Eng. in Electrical Engineering and Computer Science</i>	GPA – 4.9/5.0	Cambridge, MA Sept 2013 - June 2017 Sept 2017 - June 2018
	Selected Coursework:		
	Machine Learning, 6.867 – Fall 2016	Biomedical Computing, 6.872 – Fall 2017	
	Natural Language Processing, 6.864 – Fall 2016	Networks, 14.15/6.207 – Spring 2017	
	Advances in Computer Vision, 6.819 – Fall 2015	Design & Analysis of Algs., 6.046 – Fall 2015	
	Signals, Systems, & Inference, 6.011 – Spring 2017	Robotics: Science & Systems, 6.141 – Spring 2016	
	International Academy High School <i>IB Diploma Recipient, Graduated Summa Cum Laude</i>	GPA – 4.0/4.0	Troy, MI Sept 2009 - June 2013
Publications/ Presentations	Helen Zhou , David Mayo, Scott Greenwald. Siamese Convolutional Neural Networks for Appearance-Based Gaze Estimation. In proceedings of the 2017 European Conference on Eye Movements (ECEM). Wuppertal, Germany. (Talk)		
	Helen Zhou , Deb Roy, Soroush Vosoughi. Understanding and Predicting Across Multiple Food Domains. Presented at 2016 MIT EECScon conference. (Poster)		
	Soroush Vosoughi, Helen Zhou , and Deb Roy. Digital Stylometry: Linking Profiles Across Social Networks. In proceedings of the 7th International Conference on Social Informatics (SocInfo 2015). Beijing, China. (Paper publication)		
	Soroush Vosoughi, Helen Zhou , and Deb Roy. Enhanced Twitter Sentiment Classification Using Contextual Information. In proceedings of the EMNLP 2015 workshop on Computational Approaches to Subjectivity, Sentiment & Social Media Analysis (WASSA). Lisboa, Portugal. (Paper publication)		
Technical & Research Experience	<i>M.Eng. Researcher</i> , MIT Clinical Machine Learning Group, MIT CSAIL & IMES. Cambridge, MA. Sept 2017 - Current. Supervised by Professor David Sontag. Research in machine learning (ML). Develop & apply novel deep learning algs. to make interpretable predictions of antibiotic resistance from natural language clinicians' notes and structured data.		
	<i>Independent Research</i> , collaboration with Fluid Interfaces group, MIT Media Lab. Cambridge, MA. Oct 2015 - Aug 2017. Collaborated with Professor Pattie Maes. Research in computer vision and machine learning. Proposed, developed, and applied various deep learning architectures to perform appearance-based gaze estimation.		
	<i>Undergraduate Researcher</i> , Laboratory for Social Machines, MIT Media Lab. Cambridge, MA. January 2014 - May 2017. Supervised by Professor Deb Roy. Multiple research projects in machine learning & natural language processing (NLP).		
	<ul style="list-style-type: none">• <i>Characterizing food purchase behavior</i>: used time series, machine learning, and network analysis techniques across multiple food domains• <i>Latent Identity - Linking Profiles Across Internet Services</i>: implemented NLP, time series analysis, and machine learning techniques to link accounts. Extracted and processed users' social media profiles.• <i>Contextual Social Media Text Sentiment Classification</i>: experimented with various machine learning algorithms and novel features for sentiment classification. Built a speech act and sentiment annotation website to gather data.		

Industry Experience	<p><i>Amazon Search Research Intern</i>, Digital Relevance Ranking team, A9.com (Amazon Search). Palo Alto, CA. June 2017 - Sept 2017. Supervised by Dr. Vamsi Salaka. Created a universal model for relevance ranking in Kindle. Won 1st place in company hackathon with my idea of using topic modeling on reviews (currently under patent review).</p> <p><i>Software Engineering Intern</i>, Google Daydream team, Google. Mountain View, CA. May 2016 - Aug 2016. Created and integrated the over-the-air firmware update library and UI for the Daydream (VR) headset controller.</p> <p><i>Software Engineering Intern</i>, Brain Power. Cambridge, MA. Jan 2016. Worked with the CEO, Dr. Ned Sahin. Designed and implemented various computer vision, game, and analytical features for the company's main product: Google Glass tailored for the needs of kids with autism.</p> <p><i>Software Engineering Intern</i>, Google Fiber team, Google. Mountain View, CA. May 2015 - Aug 2015. Designed & programmed an extensible Django website for visualization & analysis of Wi-Fi tests.</p>
Leadership & Activities	<p>Eta Kappa Nu EECS Honor Society. <i>Tutoring Chair</i> (current) and <i>Internal Relations Officer</i> (2016-2017) Lead and organize an EECS department-wide tutoring program for ~300 students. (2017 - Present) Previously, documented and advertised HKN service initiatives. (2016-2017)</p> <p>MIT IEEE Undergraduate Research and Technology Conference (URTC) Committee. <i>Alumni Advisor</i> (2017), <i>Co-Chair</i> (2015 - 2016), and <i>Webmaster</i> (2014 - 2015) Created website for the first annual international URTC conference. The following year, served as co-chair. Proposed a new "EECSplore" outreach event, gave plenaries, organized volunteers, and coordinated a 15-member steering committee to make the conference of ~200 attendees a success.</p> <p>EECScon Organizing Committee. <i>Social media chair</i> (2015-2016) - publicized EECScon events</p> <p>MIT Society of Women Engineers. <i>Member</i> (2013 - 2016)</p> <p>MIT Solar Electric Vehicle Team. <i>Mechanical Engineering Sponsor Lead</i> (2013-2014) - emailed companies for funding. Also designed and built the solar car's fairings, and helped build various other components.</p>
Teaching Experience	<p><i>Introduction to Machine Learning (6.036) TA</i> (Fall 2017, Spring 2017) - hold sections & office hours; in spring, helped manage class of 700 students, taught recitations, crafted assignments, answered students' questions</p> <p><i>Intro to Deep Learning (6.S191) TA</i> (January 2017) - advise students on various Tensorflow assignments</p> <p><i>Introduction to EECS II (6.02) head grader</i> (Fall 2016) - write solutions to problems, distribute & grade</p> <p><i>Algorithms and Mathematics for Computer Science (6.006, 6.046, and 6.042) HKN Tutor</i> (Fall 2014 - Spring 2016)</p> <p><i>Comp. Structures (6.004) LA</i> (Fall '15), <i>Multivar. Calc. (18.02) TA</i> (Fall '14), <i>Intro to EECS (6.01) LA</i> (Fall '14)</p>
Other Projects	<p><u><i>Moments</i></u>, an Android app to revisit happy moments (honorable mention at 2015 Greylock Hackfest)</p> <p><u><i>Scavengr</i></u>, an Android App for going on and creating scavenger hunts (Feb. 2015 - May 2015)</p> <p><u><i>BattleJeweled</i></u>, a multiplayer, highly customizable make-3 cross-platform game app (Jan. 2015)</p> <p><u><i>ReUse</i></u>, a trash-to-treasure website for local communities (Jan. 2014)</p>
Skills	<p>Programming Languages: Python, Java, MATLAB, Javascript, C#, R, Swift, C++</p> <p>Machine Learning Libraries: TensorFlow, Keras, Scikit-learn, SciPy, NumPy</p> <p>Other Libraries/ Frameworks: ROS, OpenCV, Android Studio, Unity, SolidWorks, Django, React Native</p> <p>Miscellaneous: Linux, drawing/ sketching, machining experience, piano, clarinet, long-distance running</p>
Honors/ Awards	<p>SuperUROP Innovation Scholar (2016-2017)</p> <p>Eta Kappa Nu (HKN) and Tau Beta Pi (TBP) Honor Society (2016 - Present)</p> <p>Society of Women Engineers (SWE) Scholarship Recipient (2014)</p>