Assistant Technical Staff Assistant Technical Staff Assistant Technical Staff - MIT Lincoln Laboratory Dallas, TX Authorized to work in the US for any employer Work Experience Assistant Technical Staff MIT Lincoln Laboratory - Lexington, MA June 2014 to Present Research Engineer. See project descriptions below. Python Developer MIT Lincoln Laboratory 2018 to 2019 TESS satellite asteroid detection pipeline Developed code for post-processing TESS imagery to detect near-Earth objects (NEOs) Generated performance statistics that informed pipeline adjustment for increasing probability of new discoveries Developed a python module to resample and incorporate spatially-varying optical distortions (PSF) into imagery Created tools used to associate, filter, and visualize detections to identify areas for improvement UX Developer MIT Lincoln Laboratory 2016 to 2019 Video analytics testbed Developed and launched a custom multi-function video analytics testbed (MATLAB, 5000 ln) Directed source code development and testing using version-control tools (SVN, Jira) Incorporated user feedback on analytics generation and GUI workflow in subsequent releases Ported to Python in order to increase accessibility to and proliferation within user base Integration Engineer MIT Lincoln Laboratory 2016 to 2018 Multi-camera aerial testbed simulation and deployment Supported a multi-year flight test campaign via hardware and software development and flight operations Results from video processing application culminated in an internal white paper Led hardware lab testing and iterated with flight techs to design and build an adjustable aircraft camera fixture Optimized custom video stabilization code (MATLAB+CUDA) to improve speed (10x) on platform Synced and annotated data from different instrument sources using MATLAB for further analyses by team Generated synthetic imagery for camera sensor models (VIS+IR) using DIRSIG & distributed computing Imagery Analyst MIT Lincoln Laboratory 2015 to 2016 Application study of MIT CSAIL video motion magnification Conducted spectral analysis of motion signals after applying magnification algorithm on video data Evaluated algorithm sensitivity to video quality variables such as camera characteristics, lighting, & compression Presented findings at a video analytics conference in the closed sector Research Assistant MIT Lincoln Laboratory 2014 to 2015 Other efforts Programmed flight-tracking software for a high-altitude balloon using an Arduino, radios, GPS and a phone Evaluated stereo image 3D

reconstruction results of urban scenes from overhead imagery   Developed and tested subroutines for a missile guidance simulation software suite (MATLAB)   Calculated link budgets for satellite downlink and conducted trade studies for ground station configurations Education Bachelor's in Aerospace Engineering Massachusetts Institute of Technology - Cambridge, MA August 2010 to June 2014 Skills C++ (Less than 1 year), Image Processing (3 years), Matlab (7 years), Microsoft Office (10+ years), Python (1 year), Statistical Analysis (4 years), Data Processing (4 years), SVN (2 years), Git (1 year), JIRA (Less than 1 year), Confluence (Less than 1 year) Additional Information Lincoln Laboratory Hispanic/Latino Network Co-chair (16- 18); responsible for organizing events focused on networking, community outreach, and professional development   large events impacted >100 people   Intern Innovative Idea Challenge Committee Member (16- 19); committee given official commendation by Director of MIT Lincoln Laboratory in 2018   LLOPEN Committee Member (17- 19); committee received the 2018 MIT Excellence Award for Advancing Inclusion and Global Perspectives

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