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| **OBJECTIVE** | Internship in a startup in areas of computer vision, wearable devices, internet of things or robotics | | | |
| **EDUCATION** | **Carnegie Mellon University, Pittsburgh**  Robotics Institute- MS in Robotic Systems Development  James R. Swartz Entrepreneurial Fellow | | | *December 2015* | |
|  | **Birla Institute of Technology and Science, Pilani, India**  Bachelor of Engineering (Hons.) Computer Science Undergraduate Thesis: Pulse rate estimation from facial videos | | | *December 2012* *First Division* | |
| **SKILLS** | **Languages:** | C, C++, Java, MATLAB, Ruby, Javascript, Python, HTML/CSS | | | |
|  | **Frameworks &Tools:** | MATLAB, Android Apps, Unix Utilities, Rails, Heroku, OpenCV | | | |
| **RELEVANT COURSEWORK** | Computer Vision  Artificial Intelligence | Systems Engineering  Mobility, Manipulation & Control | Machine Learning  Data Structures & Algorithms | | |
| **EXPERIENCE** | ***Tonbo Imaging, Bangalore, India***  Member of Technical Staff (employee #15) | | | *Jul 2013 - Jun 2014* | | |
|  | Video Stabilization (watch: [vimeo.com/sahilshah/imu-video-stab-2](http://vimeo.com/sahilshah/imu-video-stab-2))   * Implemented real time image stabilization for handheld cameras and UAVs using Inertial Measurement Units (accelerometer and gyroscope) * Increased frame rate by two times over previous methods * Prototyped the entire system on TI DM6467 microprocessor and Invensense MPU   *Tech: C++, Kalman filters, sensor fusion, Qt Libraries, Embedded Systems Programming* | | | | | |
|  | ***Neuroinformatics & Cognitive Robotics Lab, TU Ilmenau, Ilemanu, Germany***  Research Intern | | | *Sep 2012 - Nov 2012* | | |
|  | Pulse Rate Estimation from Facial Video (deck: [slideshare.net/sahilshah15/pulse-detector](http://www.slideshare.net/sahilshah15/pulse-detector))   * Implemented a real time application to estimate the pulse rate of a person using video of his face * Deployed on a robot that assisted residents at home for the aged   *Tech: Literature Review, C++, Independent Component Analysis, Fast Fourier Transforms, Face Detection (Viola Jones, Active Appearance Model)* | | | | | |
|  | ***Goldman Sachs & Co., Bangalore, India***  Summer Analyst | | | *May 2013 - Jul 2013* | | |
|  | Apache Solr   * Customized the ‘More Like This’ feature of Solr to make queries on a database of 7M+ XML records more effective * Reduced the steps required to analyze suspicious transactions by a factor of 2   *Tech: Java, XML, Information Retrieval, tf\*idf algorithm, similarity scores* | | | | | |
| **PROJECTS** | **Autonomous Quadcopter Docking & Charging System** | | | *Aug 2014 - May 2015* | | |
|  | Using the fine precisionof computer vision to supplement GPS guidance and enable a UAV to land precisely on a custom manufactured docking station with charging capabilities | | | | |
|  | **Compiler Construction** | | | *Jan 2012 - May 2012* | | |
|  | Implemented compiler logic in C for an experimental programming language | | | | |
| **OTHER INTERESTS** | Reading, startups, physics, gadgets, basketball (college captain, gold medalist), running (half marathon), squash | | | | |