SAHIL B SHAH

OBJECTIVE

Internship in a startup in areas of computer vision, wearable devices, internet of things or robotics

EDUCATION

Carnegie Mellon University, Pittsburgh *December 2015*
Robotics Institute- MS in Robotic Systems Development
James R. Swartz Entrepreneurial Fellow

Birla Institute of Technology and Science, Pilani, India *December 2012*
Bachelor of Engineering (Hons.) Computer Science *First Division*
Undergraduate Thesis: Pulse rate estimation from facial videos

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	Systems Engineering	Machine Learning
Artificial Intelligence	Mobility, Manipulation & Control	Data Structures & Algorithms

EXPERIENCE

Tonbo Imaging, Bangalore, India *Jul 2013 - Jun 2014*
Member of Technical Staff (employee #15)
Video Stabilization (watch: 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 *Sep 2012 - Nov 2012*
Research Intern
Pulse Rate Estimation from Facial Video (deck: 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 *May 2013 - Jul 2013*
Summer Analyst
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 precision of 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