SAHIL B SHAH

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EDUCATION

Carnegie Mellon University, Pittsburgh, USA *December '15*
Robotics Institute- MS in Robotic Systems Development *GPA: 3.9*
James R. Swartz Entrepreneurial Fellow

Birla Institute of Technology & Science, Pilani, India *December '12*
Bachelor of Engineering (Hons.) Computer Science *First Division*
Undergraduate Thesis: Pulse rate estimation from facial videos

EXPERIENCE

Engineer @ Apple Inc., California, USA *Feb '16 – present*
Special Projects Group
- Research on Apple's next product

Tech: C++, Computer Vision, Machine Learning, 3D geometry, estimation problems

Computer Vision Intern @ Canary Connect Inc., New York, USA *May '15 – Aug '15*
Canary is a complete security system packed into a single device you control from your phone
Image Registration; Object detection
- Implemented a system to automatically realign regions from one view of the camera to the other
- Researched, developed and tested several algorithms for object detection

Tech: Multiview Camera Geometry, Convolution Neural Networks, OpenCV, Torch

Technical Staff (employee #15) @ Tonbo Imaging, Bangalore, India *Jul '13 - May '14*
Tonbo Imaging designs, builds and deploys advanced imaging and sensor systems
Video Stabilization (video: vimeo.com/sahilshah/imu-video-stab-2)
- Implemented real time image stabilization using an IMU (accelerometer and gyroscope)
- Doubled the frame rate over previous methods
- Prototyped the entire system on TI DM6467 microprocessor and Invensense IMU

Tech: C++, Multiview Camera Geometry, Kalman filters, sensor fusion, Qt, Embedded Programming

Research Intern @ Neuroinformatics & Cognitive Robotics Lab, TU Ilmenau, Ilmenau, Germany *Sep '12 - Nov '12*
Pulse Rate Estimation from Facial Video (deck: slideshare.net/sahilshah15/pulse-detector)
- Implemented a system to estimate the pulse rate of a person using facial videos in real time
- Deployed on a robot that assisted residents at home for the aged

Tech: C++, Independent Component Analysis, Fast Fourier Transforms, Face Detection

PROJECTS

Autonomous Quadcopter Docking & Charging System *Aug '14 - May '15*
Using computer vision and GPS guidance, enable a UAV to land on a docking station with wireless charging capabilities for autonomous drone operation (video: https://vimeo.com/128076716)

Artificial Intelligence & Machine Learning Techniques *Jan '12 - May '12*
Implemented Simulated Annealing, ID3 Decision Tree Learning, K means clustering, etc.

RELEVANT COURSEWORK

Computer Vision; Machine Learning; Robot Autonomy; Visual Learning & Recognition; Artificial Intelligence; Geometry Methods in Computer Vision; Data Structures & Algorithms; Operating Systems;

SKILLS

Languages: C, C++, Java, MATLAB, Python, Ruby, Javascript, HTML/CSS
Frameworks &Tools: MATLAB, Android Apps, Unix Utilities, Rails, Heroku, OpenCV, Torch, ROS