Chinmay Nandan Samant

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RESEARCH INTERESTS

Computer Vision, Medical Imaging & Robotics

EDUCATION

Research Engineer, PhD Student — Strasbourg, France
SIEMENS-HEALTHCARE, ICUBE-CNRS, University of Strasbourg — Nov 2015 - Current

- Ultrasound laparoscopic guidance for minimally invasive surgery, biopsy, and ablation procedures.
- Multimodal real-time image registration for ultrasound laparoscope.
- IMU-Camera information fusion for advanced indoor positioning.

Masters in Computer Vision (Erasmus Mundus Vision & Robotics) — Le Creusot, France
University of Bourgogne-FrancheCompte — Sept 2013 - Aug 2015

- Medical Imaging, Image Processing, Scene Segmentation and interpretation, Visual Tracking, Machine Learning, Neural Networks
- Autonomous, Probabilistic Robotics, Self-calibration, Localization, Computer Vision, 3D reconstruction/ registration, Visual Servoing

Masters in Electronic Science — Pune, India
University of Pune — Aug 2010 - Apr 2012

- Embedded systems design, Digital Signal Processing
- Analog, power electronics design

Bachelors in Electronic Science — Pune, India
University of Pune — Aug 2007 - Apr 2010

- Minors: Mathematics, Physics, Statistics

WORK EXPERIENCE

SIEMENS-HEALTHCARE, *France* — Nov 2015 - Present
Engineer
Localization and tracking of Laparoscopic Ultrasound Probe

ICUBE-*CNRS, France* — Aug 2015 - Oct 2015
Research Engineer
Software development for marker tracking in MRI

ICUBE-*CNRS*, *University of Strasbourg, France* — Feb 2015 - Jul 2015
Intern
Real-time marker segmentation and tracking in MRI

LE2i-*CNRS*, *University of Bourgogne, France* — Jul 2014 - Aug 2014
Intern
Wood texture analysis and classification

Center for Sensor Studies, *University of Pune, India* — Jul 2012 - Jun 2013
Research Assistant
Ultrasonic Transducer Applications

PROJECT EXPERIENCE

Simulator and test-bed for Robot Hand-Eye calibration

- MATLAB based simulator to test hand-eye calibration methods on real & simulated data.

Medical imaging tool for object volume reconstruction

- A MATLAB tool for manual segmentation and volume reconstruction in medical images

3D reconstruction simulation tool for pattern projection based active camera systems

- Simulation of a camera and projector system for virtual 3D reconstruction

FPGA based signal processing module

- Temperature signal processing module, VGA display and other controls

Robotics surveillance

- Autonomous robotic surveillance with Turtlebot based of ROS.

Wavelets based compression and filtering

- Image analysis with wavelets and its applications

Single View Metrology tool for Height estimation

- A MATLAB tool for depth and height estimation using a single webcam

Kohenen network learning for classification of patient data

- Implementation in MATLAB to classify complex patient movement data

Computer Vision/Image Processing Toolbox

- Implemented in OpenCV and MATLAB, built with complete user interface for Images, Videos and Live camera feed.

PCA based face recognition

- PCA was implemented to detect faces out of pool of images. Implemented in MATLAB.

Interactive Map Software

- Google maps alike offline map software created for Le Creusot, using OpenCV and MATLAB.

Masters in Electronics Thesis: Non-Contact Liquid Level Measurement using Ultrasonic Sensors

- An Ultrasonic Sensor system was developed to measure liquid level without contact.

SKILLS

- Computer Languages: C/C++, MATLAB, Assembly, VHDL, Python
- Electronics: Microcontroller Programming, Hardware Design

ADDITIONAL

Fluent in English, Marathi, Hindi. French Basic; Hobbies: Tech gadget analysis & testing, music & sports