Chinmay Nandan Samant

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RESEARCH INTERESTS

Medical Imaging, Machine Learning, Image Processing

EDUCATION

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

- Image Processing, Medical Imaging, 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

ICUBE, *University of Strasbourg, France* — Feb 2015 - Present
Intern (Master's Thesis)
Real-time marker classification and tracking in MRI

- Automatic 3D view of aligned MR image planes to the interventional instrument (marker).
- Intelligent segmentation and robust tracking of the marker.
- Real-time implementation on **Siemens MRI** machine.

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

- Classification of wood material based on the patterns present on the wooden planks.
- Feature Extraction & Machine Learning.

Center for Sensor Studies, *University of Pune, India* — Jul 2012 – Jun 2013
Research Assistant

- Ultrasonic Transducer Applications: Coal Presence Detection, Runtime mass fluid flow measurement, Ultrasonic Transducer Development, Embedded Systems Development.

PROJECT EXPERIENCE

Medical imaging tool for object volume reconstruction

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

Machine learning algorithms for segmentation and classification

- A thorough study of state of art algorithms mainly for medical applications.

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

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

Visual tracking

- Extensive study of visual tracking algorithms and their applications.

FPGA based temperature module

- Temperature signal processing module, VGA display and other controls.

Robotics surveillance

- Autonomous robotic surveillance with Turtlebot based of ROS.

Visual servoing

- Study of state of art visual servoing methods.

Wavelets based compression and filtering

- Image analysis with wavelets and its applications.

Surveys and implementations

- Edge Detection in Color Images.
- Compressed Sensing.

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
- Electronics: Microcontroller Programming, Hardware Design
- Tools: Latex, ROS, Qt, Codeblocks, OpenCV, GitHub, Orcad

ADDITIONAL

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

REFERENCES

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