RACHITH PRAKASH

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EDUCATION

UNIVERSITY OF MARYLAND, A. JAMES CLARK SCHOOL OF ENGINEERING — College Park, MD
Masters in Robotics — *GPA: 4.0/4.0* — *GRE QUANT: 169/170* — 05/20

NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL (NITK) — Mangalore, India
Bachelor of Technology in Electronics and Communication Engineering — *GPA: 7.99/10.00* — 05/16

- Honors: Recipient of All India Engineering Entrance Exam (AIEEE) merit Scholarship – Full tuition waiver awarded to top 0.2% candidates by Ministry of Human and Resource Development, India.

PROFESSIONAL EXPERIENCE

MICRO FOCUS — Bangalore, India
Senior R&D Engineer — 09/16 – 07/18

- Developed shell scripts to streamline configuration and installation of Operations Bridge Reporter (OBR) product.
- Headed the maintenance, installation, configuration of Vertica database to meet requirements of OBR.
- Delivered training of OBR product to new team members, customers and support team.
- Alongside being a developer, worked with customers and Micro Focus support teams across the world to provide customer support.

CREDR — Mumbai, India
Data Analyst — 05/15 – 07/15

- Scraped used vehicle's sales data from various automobile websites to build a database for competitive pricing.
- Developed basic mathematical models for price estimation based on factors like model, on-road price, year, variant, etc using Python.

ROBERT BOSCH BUSINESS AND ENGINEERING SOLUTIONS Ltd., EBB Department — Bangalore, India
Technical Intern — 06/14 – 07/14

- Developed C codes for interfacing different modules of Altera FPGA with NIOS-II processor to service interrupts from timer and GPIO modules.

SKILLS

Software Skills: MATLAB, shell scripting, Python, Perl, VHDL, C, LaTeX, Java, C++ (basic), HTML5 (basics), MySQL (basics)
Tools Used: V-Rep, Simulink, Docker, Kubernetes, Vertica
Certifications: SAFe 4.0 for Teams Course

RESEARCH/PROJECTS

SLAM, University of Maryland — 12/18

- Structure from Motion, GTSAM.

Technical Report on 'Control of Ensembles of robots using Non-holonomic constraints', University of Maryland — 11/18

- Implemented paper-I and paper-II with simulation

Modeling and Simulation of Baxter arm's forward, inverse position kinematics using V-REP, University of Maryland — 11/18

Implementation of Roto Brush (Adobe after effects), University of Maryland — 11/18

- Segmenting an object and tracking it across frames of a video.

2D Panorama Stitching, University of Maryland — 10/18

- Cylindrical projections, Homography transformations, refining using RANSAC, warping and blending.

Nao robot's vision system, University of Maryland — 09/18

- Color Segmentation using Gaussian Mixture Models (GMM) and Expectation Maximization algorithm.

Brain Computer Interface, Undergraduate Research, NITK — 07/15 – 05/16

- Completed data collection of 50 volunteers by recording their EEG signals corresponding to imagined left/right arm movement using a 16-channel headset Epoch by Emotiv.
- Researched and implemented pre-processing techniques, feature extraction techniques, machine learning algorithms like logistic regression, linear regression, random forest to obtain accuracy of 80% on the dataset for 2 control signals in real-time.

Finite State Machine implementation, NITK — 01/15 – 04/15

- Vending Machine was implemented – Finite State Machine with 8 states is implemented using MOSFETs.

- The project achieved low power consumption and minimized delay errors.

FPGA Based Gaming-Spooky Car game, NITK 08/14 – 09/14

- Project was implemented on 'Nexys4 board', programmed using Xilinx's ISE Design suite in VHDL.
- Input through buttons were relayed to the board to control the on-screen virtual object to avoid obstacles in real-time.

Radar using Arduino and Ultrasonic Sensor, NIT-K 09/14

- Arduino-Uno micro-controller, servo motor and an ultrasonic sensor used to visualize real-time 2-D radar using processing software.

Active Noise Cancellation, NIT-K 04/14

- The project aims at removing noise using adaptive Least Mean Square Algorithm.
- The project was implemented on DSK-C6713 DSP board using Code Composer Studio.

Autonomous Robot Navigation, IEEE Student chapter, NIT-K 13 - 14

- Core member of the project team involved in developing communication and navigation algorithms.
- The project involved movement of the robot from its current position to a final location based on GPS co-ordinate input.
- The robot reaches its destination avoiding obstacles using feedback from ultrasonic sensors.

LEADERSHIP/TEACHING EXPERIENCE

Bhumi Organization, *Education Volunteer,* Bangalore, India 07/17 – 03/18

- As a team of 4 volunteers, we mentored high school students from poor economic background to build and program a remote-controlled bot in 7-8 months duration.
- Raised funds for the organization by volunteering for events such as 'Bhumi Sports League' and 'Bhumi India Run'.

Peer Mentoring Programme, *Peer Mentor,* NITK 07/15 – 11/15

- Mentored third year undergrads on sensors, micro-controller MSP430 with hands on experiments to enable them to develop their own algorithms for their projects.

ACHIEVEMENTS

Secured All India Rank 1354 among 1 million students in AIEEE entrance examination. 2012

Secured a rank of 5 out of 100 students in an examination conducted by IAPT in Physics and Chemistry. 2012

Recipient of Certificate of Merit for securing a GPA 10 on 10 in AISSE conducted by CBSE. 2010