NAREN S. DASAN

I am software developer with 5+ years of experience in Robotics and Embedded Computer Systems, Web Applications, and User Experience Design. I am attending the University of Illinois at Urbana-Champaign for **BS in Computer Engineering**, graduating in **May 2018**. My software and work portfolio is at - http://narendasan.com/

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WORK EXPERIENCE

AUTOMOTIVE SOLUTION ARCHITECT INTERN — NVIDIA CORP. - SANTA CLARA, CA - MAY - AUGUST 2016
- Solution Architect Intern for the NVIDIA Automotive group with a focus on self driving car technology.
- Implemented products and features directly impacting NVIDIA's automotive customers looking to develop self driving car capabilities.
- Major contributions to the TensorRT Neural Network Optimizer, working on usability and development/deployment strategies

SOFTWARE ENGINEERING INTERN — NEST LABS INC. - BOULDER, CO — MAY - AUGUST 2016
- Developed embedded software for the next generation Works With Nest Platform, featuring work on Thread and Nest Weave.
- Completed the platform and presented at Nest HQ in California.
- This work was spun off into its own project with work being done on both the Google and Nest IoT platform groups.

RESEARCH ASSISTANT, COMPUTER VISION LAB, UNIVERSITY OF ILLINOIS @ URBANA - FEB 2015 - PRESENT
- Working with Professor Derek Hoiem on visual scene understanding and object reconstruction.
- Using LSD-SLAM and OpenCV technologies and developed image processing techniques in C++ and MATLAB to understand scenes.
- Techniques can be used in motion planning and robotics. http://dhoiem.cs.illinois.edu/

SOFTWARE ENGINEERING INTERN- ORACLE CORP. - REDWOOD CITY, CA — MAY - AUGUST 2015
- Developed UI and front-end features for Oracle's new Support Portal - web platform for all Oracle's support, multibillion dollar business.
- Conducted user studies, custom developed UI kits and prototyped a replacement for this legacy system used by 20+K employees.
- Conducted Heuristic Evaluations to come up with a new design for - http://support.oracle.com

SOFTWARE ENGINEERING INTERN- SOLIDFIRE INC. - BOULDER, CO — MAY - AUGUST 2014
- Developed software for optimizing large binary transfers between cloud compute clusters.
- Created a new delta parallelized compression tool designed specifically for the DWARF debugging format on Linux.
- Currently deployed in SolidFire Inc. for debugging operating systems on remote test benches - http://solidfire.com/

RESEARCH STUDENT, CORRELL LAB FOR SWARM ROBOTICS, UNIVERSITY OF COLORADO — MAY 2013 - 2014
- Developed a novel user interface for use in a distributed computing system of self-organizing wall components.
- Developed embedded C++ and C code, designed hardware components in Eagle and used SolidWorks software for 3D design.
- Designed distributed algorithms to provide components with relative location and emergent sensor functionality and UI.

PROJECTS AND PUBLICATIONS

TACOS - SINGLE CORE LINUX VARIANT - FALL 2015
- Developed a Linux Kernel from scratch for the Intel x86 Architecture.
- Allows for multiprocess operation and full user support
- Support for modified ELF programs, with paged memory and a full scheduler TacOS Codebase

3DFS: DEFORMABLE DENSE DEPTH FUSION AND SEGMENTATION …. - FALL 2015
- Technical report presenting an approach to do 3D reconstruction and segmentation of a single object from handheld video
- Contributed work using LSD-SLAM, PMVS and Poisson Reconstruction to show current state of the art.
- Worked on LSD-SLAM -> PMVS space point cloud generation to feed into the 3DFS pipeline

GESTURE BASED DISTRIBUTED UI FOR A RECONFIGURABLE SELF-ORGANIZING SMART WALL - FEB 2014
- Describes user interactions with the self-organized amorphous wall using swarm robotics techniques.
- A modular, fully distributed system of smart building blocks that communicate locally for creating smart surfaces.
- Published in ACM Conference on Tangible Embedded and Embodied Interactions 2014, Munich Germany - ACM digital library.

TEDTALK: THE FUTURE OF LEARNING IN A INTERDISCIPLINARY WORLD - APRIL 2014
- Presented a public talk on the future of learning, based on my experience in interdisciplinary fields.
- How the ideas of design thinking can be used to quickly come up with new solutions.
- How interesting ideas can emerge from diverse fields.
- Derived from my experiences in Swarm Robotics, Application Development, and Climate Modeling. TEDTalk video on youtube.

EDUCATION

University of Illinois at Urbana-Champaign, BS in Computer Engineering (Expected to graduate in May 2017)

Operating Systems	Real Time Systems	User Experience and Interface
Data Structures	Embedded Systems	Computer Architecture
Discrete Structures/Algorithms	Computer Vision	Distributed Computing

SKILLS
- Java, C, C++ programmer with ability optimize programs via elegant use of data structures and algorithms
- Distributed, Parallel and Embedded programming using C and C++ including use of Intel / x86 assembly to build realtime systems
- Developed a linux variant, including, scheduling, threads, locking, paging, memory management, display and peripheral drivers.
- Developed web apps with AngularJS, Node.js, Rails, net/http. Programmed API and backend in Go, Python and Ruby
- Discrete math, number theory and analytical skills Prime Numbers in digits of 'e'