Eric M. Panganiban

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EDUCATION

San Jose State University **August 2015 – August 2017**
Master of Science, Computer Engineering, *Specialization: Embedded Systems* **GPA: 3.810**
• Coursework:
Computer Architecture • System Software • Advanced Computer Design • Embedded Software • Embedded Wireless Architecture
• High Speed Digital Design • Signal integrity • CUDA Parallel Programming • Internet of Things • OOP & Data Structures • Operating Systems

University of California, San Diego **August 2009 - June 2013**
Bachelor of Science, Mechanical Engineering **GPA: 3.521**

SKILLS

Programming Languages: Familiar with C, C++, Python. Some experience with Java, C#, Verilog, MATLAB, Lua, Assembly.
Other: Embedded Systems, RTOS, Machine Learning, Deep Learning, Computer Vision, DNN, CNN, OpenCV, Caffe, SiSoft, Signal & Power Integrity Analysis, Digital Design, Scansion, Solidworks, AutoCAD.

WORK EXPERIENCE

CHC Consulting, LLC | *Design Engineer* | *Orange, CA* **August 2013 - Present**
- Design of fiber maps with CAD software to deliver networking and mobility services to various customers.
- Analysis of fiber and copper records to determine necessary work required for construction crews.
- Coordinate permits required by city ordinances for construction works.

Thales Raytheon Systems | *Software Engineering Intern* | *Fullerton, CA* **Summer 2008**
- Document and debug graphical user interface code for radar systems; Programming in Java.

PROJECTS

Autonomous Indoor Navigation using Machine Learning and Computer Vision | *Master's Project* | SJSU **Summer 2017**
- Proposed a navigation algorithm using computer vision and deep learning for autonomous indoor car-like robot. Goal: Use a single camera input in order to reduce overall cost of sensors while maintaining precise navigation.
- Core tools: Robot Operating System (ROS), NVIDIA DIGITS, TensorRT, Caffe, GoogLeNet, Torch, Deep Learning, Machine Learning, Computer Vision, Hokuyo LiDAR, ZED stereo camera, Jetson TX1, C, C++, Python.
- GitHub Repository: https://github.com/panganyban/vision-bot

Electric Skateboard | *Embedded Software* | *SJSU* **Spring 2017**
- Proposed an electric skateboard system with LED screen remote control using FreeRTOS for ease of travel.
- Core tools: FreeRTOS, SJ One Embedded Boards, Electronic Speed Control (ESC), Wireless chips, UART, SPI, C, C++.
- Project website: goo.gl/yUpuWg; GitHub Repository: https://github.com/panganyban/Electric-Skateboard

American Sign Language Detection using OpenCV | *CUDA Programming* | *SJSU* **Fall 2016**
- Proposed an application to detect ASL hand signals and display on screen for translation.
- Core Tools: OpenCV, Machine Learning, Computer Vision, Jetson TX1, C++

Embedded Systems Wireless Communication Project | *Embedded Wireless Architecture* | *SJSU* **Fall 2016**
- Design of wireless communication methods between LPC 1769 Embedded Boards using synchronization, linear block coding, scrambling, and descrambling methods. Programmed in C.

Signal Integrity SDRAM Simulation Project | *High Speed Digital Design* | *SJSU* **Fall 2016**
- Proposed a source-synchronous SDRAM interface design and simulation using SiSoft software.
- Simulated design with emphasis on power and signal timing requirements between CPU and SDRAM interfaces.

LiDAR-Based Autonomous Robot | *System Software* | *SJSU* **Spring 2016**
- Proposed a robot using LIDAR input for autonomous navigation algorithm. Core Tools: RPLIDAR, Raspberry Pi, Python
- GitHub Repository: https://github.com/panganyban/lidar-bot

Verilog Design Projects | *Advanced Computer Design* | *SJSU* **Spring 2016**
- Design and testing of memory transfer interface and Flash Memory interface using Verilog and Scansion