Ricardo Jose Martinez

Sr. HW Designer / Technical Lead / Artist / Maker

Professional Experience

7/18 - NOW

TAGS:
CM Mgmt.
Project Mgmt.
System Integration
Bash   Python
60GHz   WiGig
NTI   802.11ad
Radar   Robotics

Pixel 4 System Integration / Soli Hardware Engineer / Python Dev

GOOGLE ATAP, GOOGLE, MOUNTAIN VIEW, CA

· System Prototyping & Integration of 60 GHz FMCW "Soli" Radar into Google flagship Pixel 4 products.
· Python and Bash scripting, robotic automation and design of various radar system validation tests.
· Travel to China for build support and SOP auditing, optimization and engineering direction.

NOTEWORTHY ACHIEVEMENTS
Designed automated Soli Pixel Coexistence test platform which was adopted into China CM build SOP.

TOOLS: LINUX. VIM. JIRA. ORCAD. ADS. SPEC ANALYZER, SIG GEN, VNA. OSCILLOSCOPE.

6/18 - 7/18

TAGS:
Chip and Wire
Up/Down Converters
30Ghz   mm-Wave
Thin Film   Sat-Comm
MMIC   HW Lead
GaAs   GaN

Sr. Ka Frequency & mm-Wave RF HW Design Consultant

ASTRANIS SPACE SYSTEMS, SAN FRANCISCO, CA

· Introduced high performance satellite communication hardware technologies and design procedures.
· 30 GHz Ka Block-Upconverter and Downconverter design from bare die to top-level systems specs.

NOTEWORTHY ACHIEVEMENTS
Decreased payload size and weight by 50% while improving RF performance, critical for launch budget.

TOOLS: JIRA. ALTIUM. ADS MOMENTUM. AUTOCAD.

11/17 - 5/18

TAGS:
Layout Review
OFDM   NTI
RF   DOCSIS 3.1
EM Sim   Python

Sr. RF Design Engineer Consultant

NOKIA, SUNNYVALE, CA

· Tasked to help improve performance and design of failing hardware.
· RF PCB layout direction and review. 3D EM simulation and optimization of critical layout components.

NOTEWORTHY ACHIEVEMENTS
Improved 100% of system level specs through debug and redesign of existing product hardware.

TOOLS: ORCAD. ADS. EMPro. SPEC ANALYZER. SIG GEN. VNA. OSCILLOSCOPE.

11/16 - 6/17

TAGS:
Graphic Design
User Journeys
Product Design
Mobile App
UX

Creative Director / Director of Product

TOURISTER MOBILE APP, REMOTE WORK

· Product definition, user experience and interface design for personal tour-guide mobile app.
· Logo design, brand guide creation and user journey map creation.

NOTEWORTHY ACHIEVEMENTS
Design contributions used to accelerate and help Tourister enter seed funding talks with Angel investors.

TOOLS: ILLUSTRATOR CC. LIGHTROOM CC. PHOTOSHOP CC. JIRA.

8/13 - 6/14

TAGS:
Illustration
Vector Graphics
Mobile Application
Creative Writing

YouComics Mobile App / Illustrator
BENDING SPOONS, REMOTE WORK

・Vector Illustrations and single-panel comic creation of the YouComics mobile app.

NOTEWORTHY ACHIEVEMENTS

Comic panel writing contributions adopted and features at YouComics mobile application launch.

TOOLS: ILLUSTRATOR CC. PHOTOSHOP CC. WACOM TABLET.

4/13 - 11/17

TAGS:
Prototyping
CM Mgmt.
Project Mgmt.
System Design
Agile Development
LTE   WiFi
Python   Full-Duplex
RF PCB   NTI

Sr. RF Design Engineer / Sr. Technical Project Manager
KUMU NETWORKS, SUNNYVALE, CA

・Principal RF hardware designer and technical project manager for analog cancellation hardware.
・End to end oversight from component selection, circuit design, schematic, layout, CM and build mgmt.
・Automated test environment architecture and procedure definition. Managing of software engineer.
・Lead a design team of layout resources and engineers to achieve successful project completion.
・LTE power amplifier design. RF PCB system, circuit, mechanical design and direction. Python scripting.
・Project, build, CM and vendor oversight for all RF PCBs. Lead and designed RFIC System Prototypes.

NOTEWORTHY ACHIEVEMENTS

First author on US Patent # 9,521,023 for novel Phase Shifter design using discrete RF components: 360° phase coverage with <0.5° resolution, 3dB maximum insertion loss in a 100MHz bandwidth in 1.7GHz to 2.4GHz space. Key design which achieved performance milestone for company, 48 design instances used.

TOOLS: ORCAD. ADS. CST. LT SPICE. CADENCE. VNA. SPEC ANALYZER. SIG GEN. POWER METER.

7/11 - 4/13

TAGS:
RF & Microwave
Chip and Wire
Up/Down Converter
PCB Design
Project Mgmt.
NTI   SSPA
Ku   Ka

RF Design Engineer / Project Engineer
TELEDYNE MICROWAVE SOLUTIONS, MOUNTAIN VIEW, CA

・Principal designer and team lead of Sat-Comm products.
・Alumina thin-film design and project management for various L, Ku, Ka SSPAs and block converters.
・System design, line up analysis, management of mechanical design resources, PCB design.
・Designed and performed layout of thin-film circuitry to replace existing suboptimal soft-board designs.

NOTEWORTHY ACHIEVEMENTS

Designed and executed the production of company's first 30Ghz Ka Sat-Comm portfolio products.

TOOLS: ORCAD. AUTOCAD. ADS. CST. LT SPICE. VNA. SPEC ANALYZER. SIG GEN. POWER METER.

6/09 - 9/09

TAGS:
Semiconductors
Physics   Cleanroom

Research Scientist Internship
TYNDALL NATIONAL INSTITUTE, CORK, IRELAND

・Research of novel semiconductor bonding for avalanche diode production and other photonic devices.

TOOLS: MATLAB. OSCILLOSCOPE.

1/07 - 9/11

TAGS:
Team Lead
Illustration
Creative Writing
Hiring
Firing

Art Director / Staff Illustrator
DAILY NEXUS NEWSPAPER, SANTA BARBARA, CA

・Lead a team of 10 artists to successfully produce and deliver a daily newspaper to 25,000 readers.
・Created original art and illustrations.

NOTEWORTHY ACHIEVEMENTS

3rd place winner of Best Illustration award from the UC College Arts and Media Group

TOOLS: PHOTOSHOP CS. WACOM TABLET. ARTIST STUDIO.

Education

University of California, Santa Barbara / Master of Science

SEPTEMBER 2010 - JUNE 2011, SANTA BARBARA, CA

・Master of Science in Electrical and Computer Engineering.
・RF and Microwave circuit and system design, EM Theory.
・Minor in Physics. G.P.A.: 3.78; Dean's Honors.

Coursera / Python, Machine Learning, and CS
Code Academy / Python, React JS, Ruby

SEPTEMBER 2014 - PRESENT, ONLINE COURSEWORK

・Courses in front and back-end development
・Python scripting, Python deep learning algorithms
・React JS, Javascript, Ruby, HTML/CSS.

Personal Interests & Leadership Experience

Aside from engineering I enjoy playing guitar, piano, drawing, painting, graphic design, programming, filmmaking, and biking. Founded and led DMSR, a community bicycle group in Pasadena, CA; 2 years. Led and organized a 150 mile bicycle ride from Pasadena, CA to San Diego, CA; 12 attendees. Produced, wrote and directed Spanish Bombs, an independent film shot using classic 16mm film format. Organized a band, produced and performed a live musical score for the film; competed in the Reel Loud 2011 UCSB Silent Film festival.