



JUSTIN GINN

Hardware Bringup and Verification Engineer

SKILLS

Python	3+ yrs
Linux	3+ yrs
Git	3+ yrs
Microcontrollers	2+ yrs
C++	2+ yrs
C	2 yrs

EDUCATION

Texas A&M University

2012 - 2016, 3.6 GPA
B.Sc. Electrical Engineering.

Senior Design:
Realtime Audio Signal Identification and Reconstruction

CONTACT

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PROFILE

Proven Computer Engineer with a passion for architecting systems and methodologies to allow teams to reach their full potential.

I am intensely curious and self-motivated, and thrive on learning new skills as I apply them to the challenges I am solving. I seek out opportunities to apply vision, innovate, and develop new methodologies to improve business processes and outcomes.

I am a philosophical programmer who loves writing whitepapers to accompany the systems I deliver. Over the course of my career I have discovered a growing interest in software design, especially pertaining to how good software design creates better hardware.

WORK EXPERIENCE

Microcontroller Assisted Test Lead
IBM

Oct 18 - Present

Spearheaded test solution **leveraging firmware code in manufacturing test** to match test to field conditions, improving quality

- Owned **boot sequence** for Power10 used in manufacturing, bringup, and burn-in
- Drove **presilicon verification** of test functionality, virtual bringup for firmware
- Interfaced with firmware, verification, design, and manufacturing teams to support firmware code at manufacturing test
- Trained new hires and educated stakeholder teams in Microcontroller Assisted Test strategy

Technologies:

- **Architected Python API** to interface with embedded microcontrollers using firmware code written in **C++**, low level **C**, and **assembly language**
- Developed interface between embedded microcontrollers and Automatic Test Equipment using Python to comprehend **ELF** and **DWARF** binary formats
- Managed team's interaction with several large **Gerit** repositories
- Implemented test-specific content in firmware repositories, including custom **make** and **linker** infrastructures

Achievements:

- **IBM Outsanding Technical Achievement Award for Innovation**, awarded for Microcontroller Assisted Test
- Reduced test-sector boot time by **70%** generation-over-generation
- First-time-right bringup using Microcontroller Assisted Test strategy

SOFT SKILLS

Vision






Initiative

Innovation

Leadership

Communication

FAVORITE TOOLS

-  you should see my .vimrc
-  ripgrep
-  love a good rebase
-  command line junkie
-  mosh is the new ssh

PHILOSOPHY

- “ fight "black magic", wherever it is believed in
- “ fight technical debt at any cost
- “ architect for greatness, prioritize the minimum viable product
- “ leverage your effort
- “ everyone is a leader

ACTIVITIES

-  music production

Design For Test Engineer IBM

Oct 17 - Oct 18

Functional Exercisers Owner for manufacturing test

- Created register-level test sequences to power on, configure, load, and execute **functional workloads** on the processor
- Delivered test patterns for **Teradyne Ultraflex** and J973 ATE platforms
- Supported voltage droop mitigation sensor testing and calibration for use in **Power Management**
- Interfaced with circuit and system characterization teams to support test to real-world correlation

Technologies:

- Automation using **Perl**, **Python** and shell scripting in **Linux**

Processor Failure Analysis Engineer IBM

Jan 17 - Oct 17

Root-caused manufacturing test escapes to improve test coverage and Shipped Product Quality Level for Power9

- Delivered enhanced manufacturing test patterns to eliminate a category of test escapes
- Identified opportunities for manufacturing test improvements based on **System Level Test** feedback
- Assisted with array and functional coverage improvements to support Power9 bringup and General Announcement

Product Engineering Intern NXP

May 16 - Aug 16

Created utility to identify and discard unprofitable die locations, improving gross margin, yield, and reliability

- Engaged with Product and Test Engineering teams to understand cost implications of yields at each test insertion

Technologies:

- Scripting in **JMP** for data analysis and profitability calculation

Achievements:

- Awarded for **best intern presentation** in Microcontrollers Division, 2016

Test Engineering Intern National Instruments

May 15 - Jul 15


Developed a suite of tools to automatically configure network ports and device configuration in test stations

- Designed in-house replacement for LED test equipment, saving a potential **\$35,000 over 3 years**

Technologies:

- Used **Labview** and shell scripting for automation utility

PATENTS AND PUBLICATIONS

-  Device Aware Network Communication Management
-  A Framework for Near-Realtime Signal of Interest Identification and Reconstruction for Audio Augmented Reality Applications