
EXPERIENCE

Cleans Process Engineer	Samsung Austin Semiconductor	June 2013 - April 2016
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- **14nm Oxide Bridge Reduction Team:** Cleans representative for defect reduction team. Selected for Samsung DRIVE Award.
 - Improved 14nm failed chip count by 50% during 4 month project with continuous equipment monitoring and project management of process optimizations and step additions.
 - Developed an automated monitoring dashboard that scored the performance of 250+ processing chambers by z-scoring all foundry data into a single metric which allowed for fast and accurate identification of failing equipment.
- **Cleans Spotfire Administrator:** Certified Spotfire and Oracle SQL administrator for the Cleans department.
 - Provided one-on-one training to fellow engineers on how to operate and develop Spotfire dashboards.
 - Setup the department's first dedicated server to aggregate fab data to support the Spotfire reports.
- **Tools Developer:** Developed customized web apps and excel macros for fab engineering teams which have reached a usage rate of 12,000+ queries per quarter. Obtained and configured the department's first web server.
- **2015 Idea Fair for Tip Table Visualizer:** Selected by the Innovation department to present a data visualization program that enabled users to quickly picture the status of the fab equipment through an Excel based interface. By implementing a dynamic pivot table based view, users could see 60x more rows per page than the previous system.

Lead Instructor	iD Tech Camps	June 2011 - August 2012
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- Lead instructor of a summer tech camp for students of ages 7-17. Mentored a team of 4-6 instructors to run weekly classes for subjects spanning C++/Java programming, 3D modeling, photography, web mastering, and video game design.
- Developed lesson plans, edited camp videos, and organized a weekly graduation ceremony.

Audio Engineer, Technician	Big Orange Recording Studio	September 2011 - May 2013
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- Engineer at a fully analog music recording studio. Projects varied between recording sessions for clients and technician work to maintain 50+ year old vintage equipment such as tape recorders, mixing consoles, and electric organs.
- Mastered audio recordings for the website Daytrotter that published to a national audience of 70,000+ listeners.

EDUCATION

B.S.E.E. Bachelor of Science in Electrical and Computer Engineering	The University of Texas at Austin	June 2009 - May 2013
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- **UT ECE 2013 Senior Design Competition:** Awarded 2nd place for a Bicycle Collision Avoidance System. A pedal powered embedded linux system that used computer vision to detect pedestrians.
- **Texas Instruments 2012 Outstanding Student Designer:** Awarded 4th place for design of a high-gain operational amplifier.
- **Kerrville 2010 Singer Songwriter Contest:** Awarded 1st place and opportunity to play a Kerrville Folk Festival.

DESIGN PROJECTS & CODING EXAMPLES

- **Worklist Generator** (2016) - ReactJS based web app that provides an alternative query builder for Samsung semiconductor software. *Javascript, HTML, CSS* [github.com/ryanjamesmcgill/worklist-generator]
- **Web Audio Organ** (2015) - Interactive Javascript web app that uses Web Audio/Midi APIs to emulate a 1960's analog organ. *Javascript, HTML, CSS* [github.com/ryanjamesmcgill/webaudio-organ]
- **Video Effects Processor** (2015) - A python module that uses OpenCV to create custom video effects intended for use in music videos. *Python* [github.com/ryanjamesmcgill/drakify]
- **Embedded Linux Audio Sampler** (2014) - An embedded linux system that plays back audio samples for musical performance, presented at the 2015 JUCE summit in London. *C++* [github.com/ryanjamesmcgill/Audio-Sampler-Selector]

LANGUAGES & TECHNOLOGIES

- **Languages:** Javascript, Node.js, Python, C++, Visual Basic, SQL, HTML, CSS
- **Technologies:** ReactJS, Express, Docker, Redux, Heroku, MongoDB, Oracle SQL Developer, Git, Microsoft Excel

COMMUNITY & VOLUNTEER

- Samsung Austin Semiconductor High School Mentorship Program (2013-2014)