Johnathan R Germick

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Permanent Address
Boise Idaho

Education

Iowa State University of Science and Technology, Ames, IA *(2014 – 12/18/2018)*

Experience

US Patent Office Patent Examiner *(October 2020 – Present)*

Examine Artificial Intelligence patents (Art Unit 2100) while considering both legal and technical requirements. Requiring strong grasp of AI as well as the ability to communicate effectively to practitioners with a wide range of technical understanding.

IBM Signal Integrity Engineer *(January 2019 – October 2020)*

Designed and wrote automated testing scripts in python in order to test performance of circuit boards. This included automated communication with VNAs, Oscilloscopes, power supplies, and other hardware. Further, compared the experimental performance to simulated performance using computer simulation tools and EM solvers (HFSS, SPICE, ECAD and Power DC). In particular, I debugged RF circuit boards operating at frequencies of up to 6 Ghz, as well as analysis of DRAM Eye Diagrams both measured and simulated.

Regular collaboration with team to diagnose bugs while keeping in mind electromagnetic and transmission line theory, general I/O design, signal integrity, differential and single-ended interface technologies.

Undergraduate Research Assistant *(June 2016 – August 2019)*

Over the summer (2016, 2017 and 2018) I participated in various Undergraduate Research programs at various Universities:

Digital Imaging and Remote Sensing Lab, Rochester Institute of Technology
Magnetics and Materials Research group, Cardiff University in Wales, United Kingdom
Auditory Perception and Cognition Lab, University of Minnesota

As a summer researcher in these roles, I explored various software and programming technologies to in domains including: automatic music transcription, transcranial magnetic coil design, and fMRI image processing and analysis. Additionally, I worked 10 hours a week for Dr. David C. Jiles in the Magnetics research lab at my home university while school was in session. This led to developing my research and presentation skills which culminated in writing a paper published in IEEE transactions on Magnetics: “Development of Focused Transcranial Magnetic Stimulation Coils for Treating Schizophrenia” (2018).

International Paper Reliability Engineer Internship *(August 2016 – December 2016)*

Communicated with technicians to better organize and catalog work procedures with SAP. Participated in frequent root cause analysis sessions to diagnose machine failures.

Other Skills

- Electrical testing and design: HFSS, PSPICE, ECAD, PowerDC, KiCad
- Programming & Technology: Python (numpy, TensorFlow, Scikit-learn, Flask), Matlab, Simulink, C, SQL, VBA, HTML/CSS/Javascript, Docker, Git, Linux OS, Git, FreeCad
- Windows Office tools: PowerPoint, Word, Excel
- Able to quickly understand, read and respond to written technical documentation.

Example technical hobby projects:

- Local self-hosted control of lights, cameras and gardening system with a mix of open source software
- 3D printed digital accordion using custom software, 3D models and circuit design with esp32
- Simple CRUD web apps to allow user to quickly collect/store and save data
- Machine learning model development for counting cells in microscope image