

# Matthew Charles Bendel II

(330) 607-5113 \* [bendel.8@buckeyemail.osu.edu](mailto:bendel.8@buckeyemail.osu.edu)

## RESEARCH INTERESTS

---

Machine Learning | Generative Modeling | Imaging Inverse Problems | Signal Processing

## PROFESSIONAL EXPERIENCE

---

### THE OHIO STATE UNIVERSITY, Columbus, OH

*Graduate Research Associate, May 2021 – Present*

- Working as a graduate researcher under advisors Philip Schniter and Rizwan Ahmad
- Primarily focused on using deep learning to solve imaging inverse problems, with applications to Magnetic Resonance Imaging reconstruction
- Extensive time spent implementing, debugging, and refining machine learning models using PyTorch and TensorFlow, specifically Generative Adversarial Networks
- Currently working on a novel conditional Wasserstein GAN with the primary application being MRI

### AUTOMATED MEDIA INC., Columbus, OH

*Full Stack Developer, Feb 2021 – May 2021*

- Worked as a full stack web developer using a variety of technologies, namely AngularJs, Angular 8, ASP.NET, VB.NET, MySQL, MongoDB, Azure, and Redis in an agile environment
- Developed new features for applications and performing general maintenance tasks for both domestic and global Ford Motor Company projects
- Worked closely with representatives from the Ford Motor Company to meet their software needs for both consumer facing projects and internal software
- Gained experience using SVN for subversion control

### OHIO STATE ELECTROSCIENCE LABORATORY, Columbus, OH

*Student Researcher, Jan 2020 – Feb 2021*

- Developed an app using the Unity game engine which interfaces with an EEG headset in order to analyze signals
- Created a Django web app with PostgreSQL database to store signals recovered from Unity app
- Analyzed recorded results with custom MATLAB scripts that use industry standard EEG metrics to gauge attention, focus, and other quantitative measurements for medical research

### BLUBRRY SOFTWARE, Columbus, OH

*Software Developer Intern, May 2020 – August 2020*

- Worked using an AMP stack in an agile team using Bitbucket
- Overhauled Blubrry's publisher system, including the onboarding process and their private internal podcasting dashboard
- Wrote use cases for the Blubrry API in Ruby, Python, Node.js, C#, and PHP
- Implemented a WordPress plugin for Blubrry's site to handle support tickets

## EDUCATION

---

### THE OHIO STATE UNIVERSITY, Columbus, OH

*PhD, Electrical and Computer Engineering, Expected May 2026*

- GPA: 4.0/4.0

### THE OHIO STATE UNIVERSITY, Columbus, OH

*B.S. in Electrical and Computer Engineering with a Minor in Mathematics, May 2021*

- GPA: 3.814/4.0
- Graduated Magna Cum Laude

## PERSONAL PROJECTS OF NOTE

---

### REACT INFO CAROUSEL

[npm package](#)

- Creates a carousel that allows users to display information in a compact way

- Customizable CSS styles for all components in carousel
- Carousel orientation customizable

## **ADDITIONAL SKILLS AND EXPERIENCE**

---

- Extensive programming experience using many languages, frameworks, and applying these skills to a variety of applications
- Extensive experience working in a team environment, both in and out of industry
- Extensive experience working with standard ML libraries in Python
- Extensive experience developing, testing, and maintaining high quality ML models
- Experience with model tuning in order to decrease memory consumption and training/testing times
- Deep understanding of probability, detection, and estimation theories
- High mathematical maturity and an understanding of application of mathematical concepts to applications