

Ben Sims

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Software Engineer

Work

Auburn University Dept. of EFLT | Research Associate

JAN 2024 - Dec 2024

- Led coordination and management of current and future research initiatives within Auburn University's Department of Education, Foundations, Leadership, and Technology, ensuring timely project execution
- Software development lead for the Alabama Schools Achievement Analysis model
- Custom models are actively used by Auburn University professors, students, and research teams to provide data-driven insights
- Mentored and tutored student research teams in machine learning concepts, model development, and user interface design, resulting in improved project outcomes and student performance
- Authored detailed user guides and technical documentation, streamlining project handoffs and minimizing onboarding time for new team members

South Baldwin Regional Medical Center | Emergency Dept Medical Scribe

JUN 2022 - DEC 2022

- Accurately documented patient encounters in real-time using MEDHOST EDIS, contributing to improved data accuracy and workflow efficiency
- Maintained flawless patient records throughout the tenure, ensuring zero discrepancies
- Assisted in analyzing and recording medical data, significantly reducing patient wait times
- Partnered with healthcare and emergency services teams to deliver prompt, effective care under high-stress conditions
- Managed detailed records of requested tests, procedures, and billing

Education

- Auburn University | **B.S. Software Engineering** | Cum Laude 3.43

MAY 2024

Projects

Alabama Schools ML Model | React, D3.js, Flask, Scikit-learn

[Site](#) | [Github](#)

- Developed a highly customizable machine learning tool utilizing Lasso Regression and ExtraTrees Regressor to analyze key factors affecting school performance in Alabama
- Integrated with modern front-end UI libraries for dynamic data visualization, showcasing metrics such as model accuracy, feature importance, and predictive insights
- Tool actively supports the Auburn University Department of Educational Foundations, Leadership, and Technology (EFLT) in advancing research for K-12 education and public policy using data-driven decision-making

Synth VST Learning Tool | Web Audio Api, Svelte

[Site](#) | [Github](#)

- Built a minimalist, web-based synthesizer that teaches foundational audio design concepts to musical hobbyists and beginners
- Designed an intuitive interface enabling users to explore sound design with over a dozen adjustable parameters and built-in effects

Noise Classification Algorithm | Python, Matplotlib

[Github](#)

- Engineered a noise classification algorithm based on DBSCAN, capable of identifying clusters and distinguishing noise in datasets with varied levels of sparsity
- Enhanced data analysis workflows through precise noise identification, optimizing data quality for further processing

Personal Portfolio Website | SvelteKit

[Site](#)

- Created a clean, user-focused interactive portfolio website to showcase major projects and technical skills
- Demonstrated full-stack expertise, from initial prototyping and wireframing to final deployment and maintenance

Technical Skills

- **Languages** | HTML5, CSS3, JavaScript, TypeScript, SQL, Python, Java, C++, C, C#, VHDL, XML
- **Frameworks** | ReactJS, NextJS, Svelte, Flask, Node.js, Web Audio API, Ajax, Tone.js, Tomcat, Apache
- **Data Visualization** | Pandas, Matplotlib, Seaborn, Plotly, D3.js, Power BI, Tableau, Matlab
- **Machine Learning and Data Analytics** | Scikit-learn, Keras, Pytorch, TensorFlow, Jupyter Notebook, R, Stata
- **Web Development and Integration** | Google Analytics, RESTful APIs, Web Services, TailwindCSS, Vite, Bun, NPM, JSON
- **Deployment and Containerization** | Docker, AWS, Vercel, Railway
- **Database** | MS SQL, MySQL, Oracle, PocketBase, PocketHost
- **Security** | Linux (Kali), Shell Scripting, VirtualBox, WSL, Terraform, Bandit, Cron
- **Productivity** | Git, GitHub, Microsoft Office Suite, Google Workspace, Notion, Trello, TDD, BDD, VBA, Excel, Agile, Waterfall
- **Signal Processing and Specialized Tools** | DSP, Vim, Ruby, Modelsim, Visio, LucidChart

[GitHub](#) | [LinkedIn](#)