

Michael Abebe

Software Developer

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I constantly evolve my technology stack and find new ways to write clean code. My willingness to try out-of-the-box solutions means my solutions are unique. I attribute my lack of ego to creating stable relaxing team environments. Coupled with my background in Materials Science, I am a candidate that can seamlessly work with different departments.

SKILLS

- **Languages:** HTML, CSS, JS, Python, C++, Ruby
- **Framework:** React, Express, Node.js (Nodemon), Ruby on Rails
- **Databases:** Airtable, MongoDB, PostgreSQL
- **Servers:** Netlify, Heroku, Surge
- **Platforms:** Visual Studio Code, Jupyter Notebooks, Pycharm, Blender
- **Libraries:** Three-JS, Sci-Kit Learn, Pandas, NumPy

PROJECTS

General Assembly, Remote Software Immersive Program | 11/15/2021 – 03/3/21

Applied skills in Software Development for a 500-hour full-time course. Creating responsive web pages focused on my interests from travel to air quality. Developed a portfolio of projects, including:

- **Random Quest(ion)** is a social media/forum site where users can go through a guest functionality or create a personalized account. They can start quests for themselves and other users to find knowledge/answers. Full C.R.U.D. is available, along with the ability to follow other users and the quests. A nifty route on the website leads to a metaverse style virtual 3d environment I plan to grow into an AR/VR functional app. Currently, it has operational camera control and infinite plane dimensions.
 - <https://a-random-quest.netlify.app/>
- **Life After GA** is a central hub for graduates from boot camps to share resources and learning materials. After the end of a boot camp, you generally lose out on structured learning time and need to find other ways to continue growing your skillset as a developer. This project utilized a M.E.R.N. full-stack and tailwinds for UI styling.
 - <https://silly-kowalevski-1591fc.netlify.app/>
- **Weather Watchers** - Track Air Quality based on City in the U.S. using IQAir API. The project used HTML, CSS, & JS before being reworked in React with JSX.
 - <https://mike701.github.io/Weather-Watchers/>
- **Travel Bucket list** - Tracking spreadsheet for a bucket list of travel destinations visualized in bar and pie chart form then posted on a 2d map projection. Data integration created a visualization representation of travel goals. This project used React and Styled Components, along with an Airtable database to store data and manage JSON API calls.
 - <https://adoring-torvalds-46fe0b.netlify.app>

EXPERIENCE

DPWES Stormwater Management, Co-Op County of Fairfax, VA | 10/2020 – 7/ 2021

- Performed research and assisted with inspection of thousands of stormwater management facilities per agency inspection procedures.
- Managed hundreds of data entries and analysis of inspection records, citizen inquiries, and work

orders of structures weekly through the agency database and Excel.

- Created a new workflow that halved the time necessary to manage the release of plans and assign them Site Ids. Expediting their entry into the agency database and ArcGIS.
- Researched property ownership, easements, and right-of-way via SSI maps, microfiches, and approved development plans and plats maintained by the office of land development services.
- Assisted in finding systems and easements for supervisory staff and office personnel on group projects leading to presentations at stormwater conventions.

College-Coursework: Machine Learning | 01/2021 – 4/2021

- Used Python to preprocess and visualize data
 - Leveraged linear algebra techniques to format data into matrix form to find key information using Non-Negative Matrix Factorization (NMF).
 - Statistical tools are used to paint a broad picture of repeated experimental data for the purposes of matching the significance of recurring patterns.
- Supervised and Unsupervised Learning
 - Used Scikit Learn library and grew familiar with its many tools from linear regression to classification.
 - Extracted features from data using PCA and NMF to obtain eigenvectors.
 - Classified data using K-means and spectral clustering to separate and organize data more effectively.
 - Practiced model selection on data from experiments that contained noise to experience the effects of Bias vs Variance.
 - Cross-Validation and Residuals used to evaluate the data and determine bias vs unbiased models & Homoscedasticity vs Heteroscedasticity.

EDUCATION

General Assembly, Remote Software Immersive Program | 11/2021 – Present

University of Maryland, Materials Science and Engineering, College Park, MD, 8/2016-04/2021