Ty Misiorek

Port Republic, MD | 410-449-9293 | tymisiorek@gmail.com

Education

University of Virginia, Charlottesville, VA   **August 2022 - Present**
Bachelor of Science, Computer Science
- GPA: 3.91/4.0
- Data Structures and Algorithms, Computer Architecture, Software Development, Discrete Mathematics, Linear Algebra, Probability

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Experience

Undergraduate Research Assistant, Charlottesville, VA   **September 2023 - Present**
- Conducted research on the impact of academic leadership by building and analyzing a comprehensive dataset of university administrators from 1999-2018 at 700 U.S. universities, focusing on identifying trends and potential issues related to interlocking boards of directors and their effects on governance
- Constructed a data processing pipeline to detect layouts of scanned images, perform optical character recognition, and clean data utilizing PyTesseract, OpenCV, and the OpenAI API, building a structured data set from thousands of pages of university administrator records
- Applied data cleaning techniques to resolve ambiguities within the data set, ensuring accurate and reliable data organized in CSVs using pandas, NLTK, , and created visualizations using Gephi, matplotlib, and seaborn

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Projects

Songscribe, *Python, Flask, D3.js, HTML/CSS, Heroku*   **June 2024 - Present**
- Constructed and deployed a full-stack web application leveraging Flask and D3.js, enabling interactive 3D visualization of a large-scale Spotify collaboration network
- Implemented advanced data processing techniques, including network graph generation, node clustering algorithms, and elevation-based terrain visualization, improving the user's analytical experience
- Deployed the application on Heroku, incorporating Git for version control, environment management, and custom domain integration, ensuring scalability and secure HTTPS access

theCourseForum, *Django, HTML/CSS, jQuery, DigitalOcean*   **September 2023 - Present**
- Collaborated with the development team on the university's largest course review platform, utilized by 85% of the student body.
- Implemented Django's course pagination on the platform, significantly improving load times and enhancing user experience
- Developed proficiency using Docker for containerization, enhancing the deployment and scalability of full-stack web applications

Course Registration Application, *Java, JavaFX, HQL*   **May 2023 - May 2023**
- Constructed a responsive application using JavaFX to simulate a course registration system, allowing users to add and review courses, leave reviews, and create/manage accounts
- Utilized HQL and SQLite to manage and persist data, ensuring user data is saved and available between sessions

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Skills

- Languages: Python, Java, JavaScript, TypeScript, HTML/CSS, SQL
- Technologies/Frameworks: D3,js, Node.js, Django, Git, Docker, Heroku, Cloudflare

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Additional Information

- https://www.linkedin.com/in/tymisiorek/
- https://github.com/tymisiorek