Vilem McKael // Full Stack Software Engineer

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I am a versatile full-stack software engineer, building web applications with sleek user interfaces and a breadth of functionality. I specialize in MERN Stack programming, have additional experience with REST API Backends & Python3 machine learning, and am currently learning SwiftUI for iOS application development. My background in both computer science and the arts has given me a creative approach to problem-solving, while my experience in the service industry has granted me the communication skills and level-headed temperament required to work as a great team player.

Skills

- **Programming Languages:** JavaScript, Python3, HTML, CSS, SQL
- **Frameworks and Libraries:** React JS, Node.js, Express.js, Django, Django REST Framework, Mongoose, Prisma, Tailwind CSS, Bootstrap, EJS, jQuery, Python Keras
- **Databases:** MongoDB, PostgreSQL
- **Tools:** Git, GitHub, JSON, JWT, RESTful APIs, Jupyter Notebooks, AWS, Heroku, Netlify
- **Other:** Object-Oriented Programming, MERN stack applications, Asynchronous Programming, Relational Databases, NoSQL Databases, Machine Learning

Projects

downbeat [[**GitHub Link**](#)] // [[**Heroku Live Link**](#)]
Written in React.js, Node.js, Express.js, and MongoDB (**MERN Stack**)**; styled with Tailwind CSS.**
A sleek React.js-based Digital Audio Workstation (DAW) which allows for swift and easy beat production, regardless of whether or not you have experience in production.

- **Prompt:** in the next week, build an application using the MERN Stack which implements full CRUD functionality and utilizes token authentication to allow user-specific app interactions.
- Created a fully-functional beat production app using React's useSound third party library, allowing users to start and stop playback, change the BPM of playback, and add and customize up to 10 tracks with different samples.
- Implemented JWT token authentication & authorization, allowing sign-up, sign-in, and logout functionality; user details are stored securely in a database, and passwords are hashed with bcrypt.
- Made RESTful API calls using AJAX & JSON to the Express.js, Node.js, MongoDB backend.
- Implemented create, read, update, and delete (CRUD) operations on beat projects, as well as allowing users to save and load existing projects.
- Incorporated Tailwind CSS in-line styling to create a slick, intuitive UI comparable to real-world DAW's, featuring a skeuomorphic wood & concrete design reminiscent of analogue synthesis.
- Leveraged Git and GitHub for version control, checking out task-specific branches and pushing over 50 commits.

Catalyst [[**GitHub Link**](#)] // [[**Netlify Live Link**](#)]
Written in React.js and Django (**Python3**)**, using the Django REST Framework; styled with Tailwind CSS.**
A beautiful community-driven application for connecting with like-minded individuals by creating, joining, and messaging in "Collectives". My take on social applications with channels, such as Slack or Discord.

- Embraced the challenge of combining React and Django utilizing the Django REST Framework.
- Implemented authentication and authorization using DRF's SimpleJWT library, protecting all database operations.
- Deployed the backend and frontend separately, with the React.js frontend on Netlify, and the Django backend on Heroku. HTTP CRUD requests between the two enabled by CORS and written in JSON.
- Added functionality enabling users to add images to their posts using AWS S3.
- Utilized ReactJS's rendering capabilities to instantaneously update the UI when posts are created, updated, and deleted.

- Created a beautiful and intuitive dark-themed UI using Tailwind CSS.
- Minimized UI elements while maximizing feature implementation, including the ability to search for and join Collectives, add images to your posts, and edit & create posts without navigating to a new page.

Can I Share My Screen? [**GitHub Link**] // [**Heroku Live Link**]
Written in Node.js, Express.js, and Mongoose (MEN Stack); styled with Bootstrap.
A social code-sharing application where developers can ask and answer coding questions. Utilizes a monospace font, encouraging posts and comments to feature a combination of code and plain text.
- Collaborated with two other developers, designating tasks to maximize our efficiency and building a social media-esque application that satisfied all of our visions.
- Constructed wireframes and an ERD (Entity-Relationship Diagram) to serve as blueprints for the final application.
- Implemented Google OAuth token authentication, enabling user-specific posts & comments personalized with avatars and usernames.
- Built the application using Model-View-Controller (MVC) architecture, taking advantage of Express.js' backend capabilities and EJS' conditional rendering.
- Used Mongoose schemas to enable creation, storage, access, and modification of documents in MongoDB collections.
- Utilized the Bootstrap library to style the application in a manner reminiscent of popular social media applications.

Ultimate Hopscotch - Browser-Based Checkers [**Github Link**] // [**GitHub Pages Live Link**]
Feel the nostalgia in this park themed take on the classic board game. The two player browser-based checkers game implements most functionality of real checkers, including the ability to take pieces, turn pieces into Kings, and the forced-capture mechanic.
- A timeless board game recreated in JavaScript, HTML5, and CSS.
- Implemented MVC logic to update the game state on each turn, and rerender the displayed game board accordingly.
- Utilizes event listeners to interpret user input and update the game state accordingly.
- Designed and positioned the board, checkers pieces, game display, and game control buttons using CSS Grid and Flexbox.

Relevant Experience

Software Engineering Immersive Fellow | General Assembly | Remote | Feb 2023 – May 2023
Completed 500+ hours of expert-led instruction, project development, and hands-on learning of web and mobile application fundamentals using the industry's most in-demand technologies.

Lead Bartender | The Six | Studio City | 2019 – 2022
- Ensured a warm and welcoming atmosphere for customers amidst a fast-paced and dynamic work environment.
- Trained and monitored 5 new hires to maintain a high quality standard for alcohol service, drink preparation, and bar cleanliness.
- Built professional rapport with new customers, including high-profile television producers, artists, and actors, and converted them into return customers.
- Designed delicious and thematic drinks for seasonal menus and special events.

Education

General Assembly | Los Angeles, CA
Certificate of Completion: Software Engineering Immersive

Sarah Lawrence College | Bronxville, NY
Bachelor of Arts: Computer Science & Music
　　　Graduated with Honors, having earned 135 credits across 30+ courses. Courses were largely focused on computer science in Python, and also included studies in Music, Philosophy, French Language, and Mathematics.