

Mark Melnik

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EDUCATION

Binghamton University, State University of New York, Binghamton, NY
Bachelor of Science, Integrative Neuroscience, *Summa Cum Laude*, GPA: 3.91
Minor, Russian Studies

May 2022

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Java, SQL, CSS, HTML

Frameworks/Libraries: React, Redux, Query, Express, Astro, Jest, Spring

Tools: Git, GitHub, Node, Vite, ESLint, RESTful APIs, JWT, PostgreSQL, WebSockets, CI/CD, Docker, Figma

TECHNICAL PROJECTS

Baller Blitz | <https://ballerblitz.com/>

- Developed a social basketball prediction application with a React/TypeScript frontend, Node/Express backend, and PostgreSQL database; users can predict game outcomes, track personal statistics, and connect with friends
- Built a RESTful Express API that handles authentication/verification, retrieval and shaping of live data from an external scoreboard API, daily database updates through cron jobs, and a friend system with searchable profiles
- Implemented a robust JWT authentication system with persistent login using access and refresh tokens, email verification with real-time WebSocket status update, frontend/backend validation, and secure role-based routing
- Deployed frontend and backend applications from a monorepo to Render, leveraging GitHub Actions for CI/CD

Fit Finder | <https://fitfinder.app/>

- Developed a location-based fitness application with a React/TypeScript frontend, Java/Spring backend and PostgreSQL database; users can search and browse fitness locations with filtering and save favorite locations
- Crafted a responsive, accessible, mobile-first user interface with Figma and implemented the design with Sass
- Implemented a RESTful Java API with real-time CRUD operations for users, facilities, and related entities via an ORM schema; set up basic user accounts and roles with JWT authentication; deployed dockerized API to Render
- Integrated the OpenStreetMap/Mapbox API, offering an interactive street map with geospatial location markers

Developer Portfolio | <https://markmelnik.com/>

- Developed a dynamic portfolio site with Astro, React and TypeScript, showcasing projects and developer profile
- Leveraged advanced CSS, including keyframes, animations, and transitions to create a visually engaging user experience; optimized page load times using Astro's server side rendering and partial hydration capabilities

Battleship | <https://battleship.markmelnik.com/>

- Recreated a game of Battleship in the web browser using only vanilla JavaScript, HTML, and CSS
- Prioritized test-driven development by writing comprehensive Jest unit tests ahead of implementation
- Integrated the Drag and Drop API with sequential visual feedback to create an intuitive playing experience

EXPERIENCE

Binghamton University Residential Life

August 2019 – May 2022

Resident Assistant (Mentor)

- Managed the social and academic development of over 25 residents by counseling them on a weekly basis, connecting them to resources on- and off-campus, and organizing collaborative events to promote community
- Supported residents in overcoming challenges related to mental health, discrimination, and language barriers
- Mentored new resident assistants on role expectations and conflict resolution, fostering a positive work culture

Movement Disorders Laboratory (Parkinson's Disease)

November 2020 – August 2021

Undergraduate Researcher

- Investigated neuroplasticity in dopaminergic and serotonergic systems and their effect on Parkinson's Disease
- Devised and executed a research methodology using a rat model, aimed at improving existing pharmaceutical therapies for parkinsonian motor deficits; coordinated time-sensitive procedures to ensure accurate data collection
- Presented research findings to Binghamton University research faculty at an annual poster conference