Mark Melnik

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Technical Skills

Languages: JavaScript (ES6+), TypeScript, Java, SQL (Postgres), HTML, CSS
Frameworks/Libraries: React, Redux, Query, NodeJS, Express, Spring, Astro
Tools/Technologies: Git, GitHub, ESLint, Vite, Jest, Cypress, REST APIs, JWT, WebSockets
Deployment/Operations: Docker, GitHub Actions, AWS (S3, EC2, Lambda)

Project Experience

BallerBlitz | *TypeScript, React, React Query, NodeJS, Express, PostgreSQL, Sass*   Demo | Source
- Developed a full-stack basketball app; users can forecast game outcomes, track stats, and connect with friends
- Established a data pipeline in Express to fetch, transform, and serve live scoreboard data to the React frontend
- Implemented JWT auth with refresh/access tokens and WebSocket email verification following OWASP guidelines
- Created 30+ RESTful endpoints for handling user authentication, game predictions, and friend interactions
- Enhanced frontend architecture with code-splitting, lazy loading, higher-order components, and React Portals
- Incorporated GitHub Actions workflow for CI/CD with feature branching and PRs, to build and deploy to Render

FitFinder | *TypeScript, React, Redux, Java, Spring, PostgreSQL, Sass, Docker*   Demo | Source
- Developed a full-stack fitness location app; users can browse categorized fitness locations and save favorites
- Designed and implemented a mobile-first, responsive UI using modular TypeScript/React/Sass components
- Leveraged Redux for clear and efficient state management, improving interactivity and code management
- Built a RESTful Java Spring API with CRUD, filtered search on an ORM schema; dockerized for deployment
- Integrated street map using OpenStreetMap/Mapbox API with location markers based on geospatial coordinates

Portfolio | *TypeScript, React, Astro, Sass*   Demo | Source
- Developed an elegant, single-page portfolio site showcasing projects and a personal profile, designed with Figma
- Leveraged the Intersection Observer API for scroll navigation and CSS keyframes, animations, and transitions
- Optimized page loads times using Astro's server-side rendering and partial hydration capabilities

Battleship | *JavaScript, HTML, CSS, Jest*   Demo | Source
- Recreated the game of Battleship using only vanilla JavaScript, HTML, CSS, with an emphasis on modular code
- Prioritized test-driven development by writing comprehensive Jest unit tests ahead of feature implementation
- Integrated the Drag and Drop API with sequential visual feedback to enhance user experience

Additional Experience

Resident Assistant   August 2019 – May 2022
Binghamton University Residential Life   *Binghamton, NY*
- Managed the social and academic development of over 25 residents by counseling them on a weekly basis
- 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

Undergraduate Researcher   November 2020 – August 2021
Movement Disorders Laboratory (Parkinson's Disease)   *Binghamton, NY*
- Investigated neuroplasticity in dopaminergic and serotonergic systems and their effect on Parkinson's Disease
- Devised and executed a research methodology using a rat model to improve existing pharmaceutical therapies
- Coordinated time-sensitive procedures for accurate data collection and subsequent processing using SPSS

Education

Binghamton University   Binghamton, NY
Bachelor of Science in Integrative Neuroscience, Minor in Russian Studies, 3.91   *August 2018 – May 2022*