Jesse Mack
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TECHNICAL SKILLS

- **Languages**: PHP, Javascript, Node.js, SQL, Python, JSON, HTML, CSS
- **Frameworks**: React, Express, Socket.io, MongoDB, Prisma, jQuery, AJAX, tRPC
- **Tools**: Linux, Git, TypeScript, SASS, Apache, Nginx, CI/CD, REST API, Unit Testing

EXPERIENCE

- **Software Engineer** — 2019 - Present
  Self-Employed
  - Improved SQL database query times by 20% by optimizing field indexing
  - Developed a Python script to automate data fetching and database table creation
  - Developed a forum with React, Express, and MySQL, supporting threads, posts, and user auth
  - Created an administrator dashboard with PHP, JavaScript, and MySQL to analyze site and user statistics
  - Improved overall performance by 25% by refactoring existing code
  - Implemented Apache and Nginx configurations to handle server routing
  - Utilized websockets to implement a live-updating timeline feed
  - Implemented custom continuous integration and deployment scripts
  - Utilized unit tests to catch bugs and test code prior to being shipped
  - Created and maintained in-depth documentation of features and installation processes

PROJECTS

- **Fleiya Dashboard** — 2022
  A community resource for the PokeOne online game, containing information about in-game features.   Source Code
  Node.js, React, TypeScript, Express, Prisma, MongoDB, tRPC
  - Developed a Python script to scrape PokeAPI and update MongoDB clusters
  - Implemented tRPC wrapper over Prisma for client-to-server TypeScript definitions of MongoDB schemas
  - Uses Express routing to handle OAuth logic for user creation and sign-in
  - Documented in-depth processes for installation and data maintenance

- **Pokemon Absolute** — 2020 - Present
  An online Pokemon RPG with in-depth battling, trading, map exploration, and more.   Source Code
  PHP, JavaScript, jQuery, Python, MySQL, SCSS, CI/CD, Apache
  - Utilized Phaser.js to develop an open-world map system with server-side validation
  - Utilized Python to scrape data from PokeAPI to fill out SQL database information
  - Implemented an administrator dashboard to display and manage SQL database information
  - Utilizes a continuous integration and deployment pipeline to sync the Git repository with the server
  - Developed a permissions system to manage feature access on a per-user basis
  - Uses SASS and PHP scripts to create and manage custom user-interface themes
  - Engineered an extensive OOP-based custom battle system
  - Maintained the remote Linux server

- **Pokemon Absolute Chat System** — 2020 - Present
  A real-time socket-based chat system used in-game for Pokemon Absolute.   Source Code
  TypeScript, Node.js, SQL, Socket.io
  - Utilizes a websocket to handle chat messages, commands, and user authentication
  - AES encrypts chat messages before storing them in the SQL database
  - Utilizes a direct SQL database connection to allow for communication between clients
  - Implemented an authentication system to verify each client on initial connection
  - Developed custom chat commands for client entertainment and utility
  - Implemented a system that prevents message spam and handles chat bans