

Frontend (React):

React.js: A popular JavaScript library for building user interfaces.

React Router: For managing routing within the React application.

Axios: A library for making HTTP requests from the frontend to the backend.

Tailwind CSS: UI component libraries for styling and layout.

Formik or React Hook Form: Libraries for handling form submissions and validations.

Redux (optional): For managing application state, especially if the application grows in complexity.

Backend (Django):

Django: A high-level Python web framework for backend development.

Django REST framework (DRF): A powerful and flexible toolkit for building Web APIs with Django.

Django CORS Headers: For handling Cross-Origin Resource Sharing (CORS) issues when making requests from React.

Pillow: Python Imaging Library to handle image uploads.

Scikit-learn or TensorFlow (optional): For implementing the machine learning model for brain tumor detection.

SQLite (for development): Django's built-in lightweight database for development.

PostgreSQL or MySQL (for production): Robust relational database options for deployment.

Development Tools:

Node.js and npm/yarn: Required for installing and managing frontend dependencies.

Webpack or Create React App: Bundlers for managing React application builds.

Babel: JavaScript compiler for converting modern JavaScript code to older versions for browser compatibility.

Python and pip: Required for installing and managing Django dependencies.

Virtual Environment (optional): For isolating Python dependencies for the project.

Additional Tools and Considerations:

Git: Version control system for managing code changes.

Docker (optional): Containerization tool for packaging the application and its dependencies.

Heroku, AWS, or DigitalOcean: Cloud platforms for hosting the application.

JWT (JSON Web Tokens): For authentication and managing user sessions.

Testing Frameworks: Jest/Enzyme for React testing, Django's built-in testing framework for backend tests.

Linters: ESLint for JavaScript/React linting, flake8 for Python linting.

IDE: Visual Studio Code, PyCharm, or any IDE of your choice for development.