

Matthew Perez

Senior Software Engineer

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CORE COMPETENCIES

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|----------------------------|---|
| Languages: | Javascript/Typescript, Python, Go |
| Frontend: | React.js, Next.js, Svelte.js, Vue.js, Angular, Storybook, Jest, Enzyme, GraphQL, TailwindCSS |
| Data Visualization: | D3.js, Cytoscape, Leaflet.js, Mapbox, WebGL, Three.js, Pixi.js, BabylonJS, Vegalite, RAWgraphs |
| Backend: | Node.js, Express.js, Nest.js, FastAPI, Django, Flask |
| Database: | Postgresql, Mysql, MongoDB, Neo4j |
| Third Party: | Payment Integration(Stripe, Paypal), SSO, Google Map API, Algolia, ElasticSearch |
| Cloud: | AWS Amplify, Cognito, DynamoDB, RDS, Lambda, S3, EC2, Elastic Beanstalk, CloudFront, Route53, API Gateway, Firebase |
| Machine Learning: | Langchain, Langfuse, Tensorflow, Pytorch, Keras, OpenAI, GPT-3, Kubeflow |

WORK HISTORY

BIX Tech

Senior Software Engineer

March 2019 - July 2024

- Built a knowledge graph dashboard from scratch using Cytoscape.js, Fabric.js, and Angular, facilitating enhanced data visualization and analysis.
- Contributed to the development of a real-time collaboration platform using Three.js, WebGL, Firebase, and React.js.
- Engineered and optimized Python API services for data aggregation, improving data processing efficiency by 30% and ensuring seamless integration across various systems.
- Developed advanced Chatbot APIs leveraging Python, Langchain, and GPT-4, enhancing user interaction and automation capabilities.
- Implemented sophisticated web scraping techniques from multiple company websites and aggregators, increasing data collection efficiency by 30% and supporting more informed business decisions.
- Engineered advanced data visualizations leveraging React.js, TypeScript, Fabric.js, and D3.js, resulting in a 25% increase in user engagement and improved data comprehension.
- Spearheaded the development of FastAPI-based backend services, boosting data processing efficiency by 30% and significantly reducing system latency.
- Built advanced map visualizations using Mapbox, KeplerGL, and OpenStreet APIs, enhancing user experience and enabling precise geographic analysis for data-driven decision-making.
- Implemented robust web scraping solutions from company websites and aggregators using Python and BeautifulSoup, achieving a 150% increase in data collection efficiency and providing critical insights for strategic decision-making.
- Developed a map dashboard project from the ground up using React.js, TypeScript, Mapbox GL, and TailwindCSS, enhancing geographic data visualization and increasing user engagement by 40%.
- Implemented and deployed over 30 advanced algorithms (classification, clustering, time series, NLP, and computer vision), resulting in a 25% increase in data processing efficiency and enabling more accurate predictive analytics for critical business decisions.
- Developed and deployed an AWS SageMaker web page category classification model, improving content categorization accuracy by 20%, streamlining user navigation and content management.
- Led frontend development and mentored junior developers, boosting team cohesion and reducing project delivery times by 20%.
- Developed and showcased a dynamic network provisioning tool using D3.js, TypeScript, React, and Node.js, transforming it into a successful long-term project.
- Reduced image-loading time by up to 50% through server-side image processing, resulting in a smoother user experience.
- Developed and unit-tested software to meet business requirements and technical design. Maintained high code coverage quality (close to 90%) with a strong emphasis on Test-Driven Development (TDD).
- Built a platform for retrieving time-series market data and generating custom visualizations and analytics using D3.js.
- Established a serverless architecture with AWS Lambda, AWS DynamoDB, AWS Cognito, AWS Amplify, and AWS Route53, resulting in a 30% improvement in system scalability and a 25% reduction in operational costs.
- Improved data fetching by leveraging GraphQL capabilities to narrow the set of queried fields.
- Developed real-time, dynamic form-based pages that updated as users entered data and queried REST APIs, significantly improving user experience and data accuracy, leading to a 25% increase in form completion rates.
- Enhanced the efficiency of large form validations by utilizing the FastField component in Formik, resulting in a 40% decrease in validation time and significantly boosting overall application responsiveness.
- Scoped project requirements using Agile & Scrum principles for a mission-critical multi-page application, prioritizing development activities and reducing ad hoc work requests by 16%.

Sony Electronics

Software Engineer

Jan 2013 - April 2018

- Developed a synchronization trigger that channels data from PostgreSQL to Elasticsearch, increases full-text search speed by almost 90%, and makes a list of suggestions available for website search needs.
- Refactored the existing code to improve the performance of a heavy Angular front end by talking to a Node.js and Express.js via REST API.
- Updated a Socket.IO piece of application to handle multiple connections and user disconnects.
- Improved the mobile user's experience by making applications, charts, and drawings react to touch events.
- Implemented a user-customizable report creator with 30+ chart types and support for real-time data with filtering and segmentation.
- Heavily participated in brainstorming and provided lots of useful ideas for the application to be more appealing to the end user.
- Implemented map visualization using Google Map APIs—allowing customers to discover services and advertisements.
- Built on previously developed code, improving the performance and providing a Python interface for the C++ legacy code.
- Developed a Python model to improve facility utilization, reduce facility operations cost and reduce lease cost along with number of business constraints.
- Implemented a HIPAA compliant module for a new feature that would allow users to record and store injury medical records.
- Developed an algorithm in MATLAB and converted it to C for production; the product was deployed and deemed successful.

EDUCATION

Tokyo Institute of Technology University | Computer Science | B.S in Computer Science

2008-2012