Pat Karnsakultorn

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EXPERIENCE

Software Engineer
Aug 2022 – Jan 2024

Dodge Data & Analytics | *TypeScript, Angular, C#, .NET, AWS (ECS, Kinesis), DevOps, Redux, RxJs, Jest*   *Vancouver, BC*

- Designed and implemented UI components, RESTful APIs and microservices for the new DCC 2.0 website to handle bidding processes and interactions in 10,000+ new and updated construction projects daily across 600,000+ firms.
- Successfully delivered a performant location-based smart searching service. Developed intuitive UI components for browsing search results and autocomplete search bars, incorporating features such as syntax highlighting and optimized data retrieval processes for enhanced efficiency.
- Established and fine-tuned search result ranking algorithms to ensure relevance, accuracy, and optimal performance across diverse search scenarios and subscription levels.
- Refactored and isolated essential tagging functionalities for tracking, commenting, and flagging over 200,000 projects and companies into a dedicated microservice, resulting in a 40% improvement in performance.
- Performed Angular upgrades. Migrated 10+ essential APIs and microservices into AWS ECS. Created automated CI/CD pipelines with Jenkins, Terraform, and Docker.
- Consistently recognized for displaying adaptability in picking up new skills and technologies, as well as taking leadership in tackling production bugs and exploring improvements to current processes. Actively involved in code and design reviews and mentoring co-op students.

Software Engineer Co-Op
May – Dec 2021

Dodge Data & Analytics | *TypeScript, Angular, Redux, RxJs, Angular Material, Chrome DevToos, Jest, ng-mocks*   *Vancouver, BC*

- Built a dynamic and responsive search page with advanced filtering capabilities, result previews, and detailed reports.
- Created custom directives for reusable components and templates to support new and existing features across the site.

Full-Stack Web Developer
May – Aug 2019, Jun – Aug 2020

UBC Vancouver School of Economics | *JavaScript, Python, jQuery, HTML, CSS, Bootstrap, Blockly*   *Vancouver, BC*

- Developed a web application to teach repeated games in game theory.
- Coded custom Blocky blocks to handle changing parameters and validate inputs (supports all strategies under Axelrod).
- Successfully used in ECON 221 and CPSC 103 courses at UBC with great satisfaction from instructors and students.

Web Software Developer Co-Op
Sep 2019 – Apr 2020

Switchboard | *JavaScript, React, Node.js, Express, AWS, NoSQL*   *Vancouver, BC*

- Worked on a new automated dispatching module to schedule and monitor drivers and freight.
- Designed and implemented custom geofencing features on web and mobile platforms for vehicle tracking and alerts.
- Refactored and migrated vehicle tracking functionalities to AWS SQS. Significantly decreased the save time and mobile data usage in over 2000 fleets of vehicles.
- Optimized ELD (Electronic Tracking Device) event saves, sped up save time on the web and mobile platforms by 200%.

TECHNICAL SKILLS

Languages: TypeScript / JavaScript (ES6), C#, Python, CSS/Sass
Frameworks and Libraries: .NET, Angular, React, Redux, Node.js, Ramda, D3, Bootstrap, Jest, NumPy, Pandas
Tools and Databases: Jenkins, AWS (Kinesis, ECS, SQS), Docker, MySQL, MongoDB, Git, Bitbucket, Figma

PROJECTS/INVOLVEMENTS

AdoptOpenJDK Quality Assurance (Canada Open-Source Projects) | *Python, Github Actions, Jenkins, JavaScript, React*

- Enhanced AdoptOpenJDK's change-based testing initiatives by optimizing the CI/CD processes. Created automated scripts to execute a specific subset of tests based on directory changes when a pull request is merged. The resource savings is apparent given 87 million tests are executed per release and the 20GB of test output are produced in each nightly build.
- Implemented a feature for builds to be triggered on a specific branch when a comment is made in a pull request.
- Improved upon the existing UI dashboard to effectively display performance test results.

EDUCATION

University of British Columbia
May 2022

Major in Computer Science, Minor in Economics | Graduated with Distinction   *Vancouver, Canada*