AKASH PATKI

Toronto, Canada

patki.aakash@gmail.com || +1-365-998-9968

Website: keycache.co || GitHub:@keycache|| LinkedIn: @akashpatki

PROFILE SUMMARY

React(NextJS)| NodeJS| Python | JAVA | .NET| Cloud(AWS, GCP)| Docker | Terraform

Work Experience Summary: I am a retentive, "Full Stack Engineer" with experience in React (17+), Python (3.10) NodeJS and JAVA 8. Having successfully architected, designed and delivered high frequency/high availability (microservice based)systems to cut costs and improve productivity, I am seeking to leverage my technical aptitude, strong analytical and communication skills for building robust applications. I am adept in talking with clients, finalizing the business requirements to technical specifications while maintaining user expectations. I fully understand the intricacies of technology related decisions fitting in the bigger picture.

Environments	Windows 10/11, Linux (Ubuntu), MacOS.
Programming Languages	Typescript, React, Python, JAVA, PERL, C#, SQL, Shell Scripting, SQL, C/C++, C++/CLI.
Tools/ Applications	VS Code, Eclipse, Postgres, MySQL, Celery, AWS Services, Jenkins, Datadog, Git, BitBucket, Docker, Terraform.

Work Status: Permanent Resident (Canada). No sponsorship needed.

PROFESSIONAL EXPERIENCE

STAFF SOFTWARE Develop, *ACV Auctions, Toronto*, Mar-23 to Present

The (full stack) role involves developing and delivering small to medium applications and streamlining processes in a fast paced (startup) environment. The short life cycle of projects compresses the timeline and provides a **unique "Project/Engineering Lead" perspective** on planning and delivering applications. The role involves talking regularly with Product and Engineering Managers while frequently participating in user/client calls to codify the business requirements to technical specifications. I am regularly involved in presenting technical documents and solutions in a public forum for peer review and critically evaluating solutions presented by others.

- **Coordinate across teams to implement revenue positive service:** Work with a **team of 3** for planning and developing the engineering pipeline to deliver an end to end solution for unique, cross functional service. Role involves coordinating with Machine Learning, Infrastructure and core teams to understand the limits of existing services and architect the final solution. The execution involves working with **C#(**API Gateway**), Kafka**(events), **Vue**(UI workflows) and **Python**(backend services). The successful project delivery would mean an increase of sales of almost **15 to 30 %**.
- **Project/Team Management duties:** Be a critical voice in technical document review. Work towards standardizing technical documentation and (technology agnostic)implementation of services. Work with Product, UX and core teams for requirement gathering and refinement. Interview and onboard new candidates for roles within the team. Support with "HelpDesk" to rapidly resolve the issues and maintain our SLOs.

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- **Technologies used: Vue** to deliver the UI. **Python**(3.10) with **C#/JAVA/FastAPI/Django** for the backend. The solution hosting is on **AWS** using **Docker** and **helm charts** via **Jenkins** for an ideal **CI/CD** experience.

STAFF SOFTWARE ENGINEER, *SecurityScorecard, Toronto*, Mar-21 to Present

The (full stack) role involved developing and delivering small to medium applications and streamlining processes in a fast paced (startup) environment. The short life cycle of projects compresses the timeline and provides a **unique "Project/Engineering Lead" perspective** on planning and delivering applications. The role involves talking regularly with Product and Engineering Managers while frequently participating in user/client calls to codify the business requirements to technical specifications. I was involved in presenting technical documents and solutions in a public forum for peer review and critically evaluating solutions presented by others.

- **Implement "Machine Learning" solution for "Questionnaire Filling":** Lead a team of 3 in designing and developing the engineering pipeline to deliver an end to end solution for "first of a kind" "Machine Learning" project. Role involved coordinating with Data Science and DevOps teams to architect the solution. The execution involved working with **Celery**(Task Queues) and AWS services like **S3**, **SQS**, **SNS** and **Lambda** for a complete async workflow. The successful project delivery resulted in **70-90 % time savings** while filling questionnaires.
- **Introduce locale based translation**: Independently delivered the project to support new locales. Project demanded co-ordination between third party vendors and Japanese users, across multiple time-zones for a successful project completion. The application is now set up for a configuration based onboarding of new locale based translations, **reducing the go live time by 70%**.
- **Project/Team Management duties:** Coordinate with Product, UX and Sales Engineers for requirement gathering and refinement. Interview new candidates for roles in the team. Streamline interviewing process(at least, just within the team). Coordinate with "Customer Success Managers" to rapidly resolve the issues and maintain our SLOs.
- **Technologies used: React** to deliver the UI. **NodeJS(Typescript)** with **ExpressJS** and **Python**(3.10) with **Flask**/**Django** for the backend. The solution was hosted on **AWS** using **Docker** and **Terraform** via **Jenkins** for a seamless **CI/CD** experience.

SENIOR FULL STACK ENGINEER, *Bank of America, New York City, NY*, May-15 to Mar-21

The role involved designing, developing, deploying and supporting Full Stack (**React 16.8+, Python 3.8, JAVA 8** and **NodeJS** with **TypeScript**) applications in *nix operating environments. One of the primary responsibilities was exploring and incorporating solutions into the technology stack. The project relied on using agile software methodologies and leveraging TDD software development practices. Primary responsibilities involved **specification finalization** through regular talks with **stakeholders**(sales and middle office personnel).

- **Building Trade Capture solutions in React, Python and Java:** Lead role in decommissioning legacy "Credit Trade Capture" system, automating workflows, resulting in *savings greater than $1 million* a

year. Design and development lead for retiring a legacy reporting system to port (20+) credit instruments/products.

- **Developing high frequency (full stack) applications:** Design and deploy multiple **Python/NodeJS** and *OpenFin* based React-JS (16.8+) applications for onboarding "Trade Capture" and "Exception Monitoring" products. Extend the project to support Configuration based UI - Workflows to automate dynamic trade capture. Implement solutions (frontend and backend) for "Performance Metrics Dashboard" to monitor system health for exceptions, per trade performance trends and bottlenecks**.**
- **Building Java Services (Backend)**: Implement services in core JAVA 8 (Multithreading, Collections, lambda) to connect and communicate with clearing houses (ICE and TriOptima). Build REST services for UI applications through Spring (Boot).
- **Requirement Gathering and Analysis:** Interact with Sales, Traders and Middle Office personnel to gather functional/non-functional and performance requirements to conduct an effective "Impact Analysis". Create a BRD (Business Requirement Document) based on findings.
- **Automating the Testing Suite for Integration Testing:** Investigate and evaluate the technologies for project needs. Implement a new solution (with puppeteer) to improve execution time by 200%.
- **Technologies used: React**(16.8), ES6/ES7 to build Trade Capturing and other applications. **Python**(3.7) **NodeJS** and **JAVA** 8 to deliver backend services via **Flask, ExpressJS** and **SpringBoot**. Managed the artifacts via **JFrog** and maintained an internal custom solution for CI/CD.

SOFTWARE ENGINEER, *J.P Morgan Chase – New York City, NY*, Jul-13 to May-15

The "Full Stack" role involved an understanding of the proprietary **Risk evaluation framework** (Athena) developed by J.P Morgan, along with the components (Pixie, Hydra, Extract and Stress Framework, STPServer, Reactive circuits, etc.) that made up this framework. Developed, deployed and provided **L3 Support** for "**Fixed Income Repo**" applications along with the standard duties of a **Scrum Master** in an "**Agile Environment**".The project involved enhancing the Dashboard Application to visualize **Risk and PnL** benchmarks for "Fixed Income Repo" (LOB), as well as onboarding new businesses. This required thorough understanding of the existing code, workflows and the business.

Primary responsibilities included

- **Requirement/Impact Analysis:** Primarily involved direct interaction with business/desk to gather requirements, formalizing it into a requirement document and an eventual requirement and impact analysis.
- **Scrum Master:** The primary responsibilities involved maintaining the JIRA board, following-up on the task progress through a daily scrum call, task prioritization, sprint pre-planning, post sprint analysis(velocity calculation, sprint retrospective, etc.)
- **Traders/Middle or Front office interaction:** Weekly L3 Support involved regular interaction with users to identify, investigate and verify the resolution of support issues (as well as maintain a healthy rapport). Depending on the issue we would need to involve Athena CORE team too.

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- **Onboarding/Off-boarding:** Preparing and maintaining project wiki for onboarding new members into the team. Off-boarding procedures require us to make sure KT sessions, documents are thoroughly vetted.
- **Miscellaneous:** Regular refactoring to improve code/application performance (once, to the tune of 20 times-size wise of the output). Code reviewing, managing entitlements within and across teams, etc.
- **Technologies used:** Intermediate to Advanced level *Python* is extensively used to develop framework/s, modules, scripts and automation processes. Basic to intermediate level *Linux* proficiency was required to manage accounts, reports and file management for day to day duties.

JUNIOR SOFTWARE ENGINEER, *Bank of America – New York City, NY,* Apr-12 to Jul-13

This role involved a thorough understanding of the "Quartz" framework (built for developing applications to **evaluate risk** across different services) and its core components (like DAG, Sandra, QzTable, Inform Client, etc.). Designed, developed, deployed and maintained Prime Brokerage and Securities Lending applications. Managed the '**design and implementation**' in coordination with BAs, team leads and production support to ensure timely completion of the deliverables, within an "**Agile Environment**".

- **Prime Brokerage**: Developed *financial risk evaluation applications* that generated reports to evaluate exposure of instruments to the firm.
  - Designed/Implemented *"Instrument" definitions* including the calculations for Risk.
  - Developed/Refactored code to meet the new requirements; **reduced execution time by 20%**
  - Developed a "Reconciliation" application to check the veracity of the risk evaluation reports and optimized it to **reduce execution time** to a tune of **50%**.

- **Securities Lending**: Developed client-side *(AutoBorrow) applications to manage Inventory*.
  - Designed/developed the core functionalities and the framework to build outgoing and inbound feeds to and from third party systems (**Equilend, LCOR, AMPS**).
  - Refactoring of server-side components to improve application performance (design, space and time wise), prompting my move to the CORE team.
- **Other Contributions**:
  - Developed a new application to graphically **visualize module dependency** (UML Diagram).
  - Leveraged existing core components by modifying them to help analyze code performance to a finer granularity.
- **Technologies used:** *Python* was used to develop feed framework, reconciliation application and unit/integration test cases. *SQL* for stored procedures to reconcile the results. *C#* for bug fixes and upgrading legacy "Security Lending" applications.

RESEARCH ASSISTANT, Aug-2009 to Dec-2011

Institute for Software Integrated Systems, Vanderbilt University, Nashville, TN

The work mainly covered the area of Model Integrated Computing (MIC). MIC focuses on the formal representation, composition, analysis, and manipulation of models during the design process. My work involved development of tools that aided this extremely complex design and implementation process.

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- Developed **GReAT** (Graph Rewrite and Transformation) debugger, adding new features and fixing bugs.
- Developed "**Model Comparator**" for a quick and efficient way of testing changes to the core features of GReAT.
- Designed/Developed "**Model Refactoring**" techniques to improve modeling of complex systems.
- **Automated** the testing of new builds across different applications and operating systems.
- **Technologies used:** Worked with *C++, C++/CLI*, *C#* and JAVA across MIC projects. *Python* to automate build and test processes. (Python) *Cheetah* for designing templates to automate code generation.

SOFTWARE DEVELOPER, *IBM, Pune India*, Jul-2007 to Jul-2009

The work involved developing Static **Business Intelligence Reports** for **American Express**. Work involved a complex process of requirement gathering, analysis and design process. These reports helped the clients devise strategies (advertising, pricing, etc.) across different "Lines of Business".

- Developed/Enhanced reports based on specifications and contributed to the process by providing input during the requirement specification phase.
- Developed tools to **ease the report development**
- Developed tools to **automate application deployment**
- **Interview**ing candidates for new team members.
- Won an **IBM Bravo Award** for designing a tool "Flow Diagram Generator For Stored Procedures"
- **Technologies used**: Used *C* and *SQL* to develop dynamic stored procedures and deploy them on *IBM AIX* to generate reports using *Actuate (BI)*.

EDUCATION

Bachelor of Technology, Computer Science, 2003-2007

NATIONAL INSTITUTE OF TECHNOLOGY, Rourkela, India

GPA 7.54

Masters in Science, Computer Science, 2009-2011

VANDERBILT UNIVERSITY, Nashville, TN

GPA 3.87