Tucker Beck

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Summary

Passionate Engineering Manager dedicated to delivering quality software while leading my team with velocity and empathy. Seeking growth opportunities for personal and professional development within vibrant collaborative working environments.

Technical Capability Highlights

- **Languages**: Python, TypeScript/JavaScript, Perl, C++
- **Technologies**: FastAPI, Angular, Kubernetes, Docker, SQLAlchemy, Spark, Postgres
- **Platforms**: ClickUp, JIRA, Slack, Google Workspace

Certifications

- **Certified Kubernetes Application Developer (CKAD)**: 2024

Professional Experience

Omnivector Solutions: Engineering Manager

2021 - Present: Engineering Process Improvements and Team Management

- Developed complete Engineering Development process including comprehensive workflow diagrams and extensive documentation of the entire engineering lifecycle.
- Oversaw migration from Monday.com to ClickUp and established workspaces and workflows adapted to the Engineering Development process.
- Established SCRUM-based methodology for engineering team to coordinate development, measure progress, and continuously improve engineering process.
- Instituted regular One-on-One meetings with 8 direct reports to track professional development and establish constructive candor in team communication.
- Conducted performance reviews for direct reports to assess progress and establish improvement goals.

2021 - Present: Vantage HPC Platform

- Directed development of the Vantage HPC SAAS platform from ideation through public-facing deployment in production environments.
- Produced specs and project plan for enabling subscriptions to the Vantage platform through the AWS Marketplace.
- Refactored Jobbergate OSS project to integrate with Vantage platform including development of server-side agent with remote Slurm job submission capabilities.
- Built Armasec OSS Auth package for FastAPI to enable strong and reliable security for python micorservices back by OIDC providers including Auth0 and Keycloak.

- Developed custom git branching model for Vantage projects based on the Stable Mainline model to support multiple concurrent deployments of the product and maintain repository consistency.
- Lead effort to produce technical documentation for the Vantage product by contributing copy for many sections and making quality improvements throughout.

Office Ally: Web Development Team Lead

2020 - 2021: Genomics Project & Transition to Team Lead

- Piloted effort to integrate lab reports and processing statuses from genomic testing venture project into Patient Ally.
- Collaborated with Architecture team to develop a Kafka-based event driven architecture for moving genomics related data and status changes throughout cross-platform ecosystem.
- Revised Sprint Retrospective meeting structure to improve team engagement, encourage reflection on team dynamics, and promote positive feedback among team-members.
- Handled challenging transition to Team Lead in the midst of dramatic turnover, performance challenges, and team re-direction.
- Codified and regularized One-on-One meetings with direct reports to track professional development and establish constructive candor in team communication.
- Rallied an exhausted and discouraged team around a last minute crunch-time project mandated by high-level stakeholders and delivered results while maximizing engagement.

2019 - 2020: Patient Ally Frontend Rewrite

- Lead effort to rewrite legacy frontend application from Django to Angular 11 using modern best practices and reactive user experience
- Introduced ngrx store for system-wide application state management and reactive asynchronous communication with backend subsystems.
- Re-designed PA Messaging section from scratch to behave like familar email applications including contacts, attachments, and intuitive conversation-based message presentation.
- Promoted version control workflow standardization and collaborated with other senior developers to codify standards and best practices for git.
- Mentored junior devs struggling with new technologies and reactive design to improve overall team velocity in conversion project.

Comscore: Senior Software Engineer

2016 - 2019: Cross-platform record linkage / entity resolution for large metadata store

- Spearheaded and lead development of mission critical internal system for record linkage and entity resolution (deduplicating and disambiguating metadata) from disparate subsystems of Comscore.
- Developed flexible graph-like data schema in Postgres to support heterogeneous data models in a single large metadata store.
- Architected ETL pipeline to consume and normalize multi-format data from a wide range of sources including S3, FTP, and external databases.

- Designed scalable recommendation engine using Spark for distributed processing to deliver aggregated link recommendations utilizing multiple, independent matching algorithms.
- Forged stand-alone API application using Python and Flask to service front-end UI as well as direct access by external services.

2012 - 2016: Refactor legacy record linkage systems

- Launched efforts to consolidate several mechanisms of "title matching" (human curated record linkage driven by algorithmic heuristics) for the On Demand Essentials product.
- Designed modular, data-driven subsystem to centralize record linkage and facilitate rapid deployment of new heuristic algorithms.
- Extended logging and event bookkeeping to support forensic analysis of failure events.
- Ported new MCP subsystem from On Demand Essentials to Digital Download Essentials creating a reusable code base that could be extended to similar products.
- Orchestrated crisis management effort for the new subsystem when a major data-provider began delivering invalid data, and used new capabilities to triage problems.

Batelle Inc.: Applied Parallel Computing Scientist II

2011 - 2012: Modernize open-source biomolecular research application

- Anchored modernization team for open-source biomolecular software project funded by National Institute of Health.
- Translated extensive legacy FORTRAN 77 computing backend into equivalent-performance ANSI C with custom minimal object oriented abstraction layer.
- Commuted entire project from Subversion version control system to Git to improve management and re-integration of exploratory source-code branches.
- Converted build system from Autotools to Cmake to improve stability and flexibility of build system while reducing overhead and improving maintainability of build scripts.

2010 - 2011: Human tracking in gigapixel video streams of high-traffic environments

- Collaborated with premier university research team specializing in computer vision.
- Converged with two off-team developers to transition exploratory research code written in MatLab to deployment ready platform implemented in C++.
- Designed distributed computing platform for computational tasks including a dispatching system for client requests from a custom Qt client-side application to a compute cluster using ZeroMQ for low-latency inter-process communication.

2008 - 2010: Detection and classification of objects in gigapixel images

- Researched and developed object detectors that hunted for ~2500 pixel objects in ~10 gigapixel images utilizing OpenMP to locally optimize searches.
- Experimented with signature-based classifiers for disjoint object categories using Boosted Tree Classifiers, Support Vector Machines, and Artificial Neural Networks.
- Explored signature generation in C++ with OpenCV using morphology, curvature metrics, and structural statistical moments.
- Developed a novel hybridization of a Self-Organizing Map with an Artificial Neural Network to classify images by structural signature of sub-features.

Education

2004 - 2008: Washington State University: Computer Science B.S.

- Graduated Cum Laude
- Focused on Scientific Computing, Machine Learning, and Parallel Computing