

Tareque Hossain

SOFTWARE ENGINEER
USA

Tareque has 10+ years of experience in engineering roles, from senior engineer to staff engineer, from technologist to architect. He has demonstrated technology and leadership capacities at large organizations (NetApp, Public Broadcasting Service) as well as at startups at different stages of growth (SocialCode, StackPointCloud, WiserTogether). Besides contributing to different layers of the stack, Tareque enjoys working with product owners to understand their usability visions and support data flows across the stack to materialize them. He served as the consultant architect of Stackpoint.io for over two years to help transform a product idea into a popular Kubernetes cluster management platform with 15K users. Tareque provided technical diligence in StackPoint's acquisition by NetApp, and played a crucial role in the development of NetApp Kubernetes Service. Since acquisition of Spot by NetApp, Tareque has been designing the API for an Apache Spark management layer on top of Spot's Kubernetes backend. Tareque is also an open source contributor, conference speaker, avid traveler, scuba diver, drummer and videographer.

Keywords

python, django, celery, JavaScript, VueJS, AngularJS, Golang, Java, RESTful APIs, microservices, git, docker, docker compose, kubernetes

Work Experiences

SOFTWARE ENGINEER V AT [NetApp](#)

September 2018 – Present (2 year & 3 months), Remote

Spot by NetApp

- Joined Spot BigData team upon acquisition of Spot Inc, by NetApp

- Helped design a unified model for Spark applications created through Spark Submit, Spark Operator and other means
- Designed API endpoints for Spark management layer on top of Kubernetes clusters
- Collaborated with a high performance team to implement cluster registration workflow for Spark management in various Java microservices of Spot backend
- Analyzed existing cost calculation system in Spot backend to determine methods for surfacing Spark application costs

NetApp Kubernetes Service

- Created a NetApp branded version of the acquired StackPoint.io app by expanding on the existing white-labeling system
 - Added support for seamless log in using NetApp's internal authentication system built on Auth0
- Created a system to meter customer clusters on per hour per node basis
 - Implemented periodical pull in of on-demand instance cost using AWS, Azure and GCP APIs to calculate baseline for per instance fee
 - Implemented a scalable solution to meter node usage for any number of customer Kubernetes clusters under a minute
 - Implemented monthly invoice calculation service based on cluster node usage records, generating PDF statements and user payment using Stripe
- Set up initial architecture for NetApp Kubernetes Service UI - successor of the StackPoint app, using VueJS
 - Implemented authentication, app configuration retrieval process and several major components for the initial push to deliver a UI for cluster application lifecycle management
 - Guided development of the components as the team grew in size over time
 - Implemented a system where upon loading, the UI dynamically fetches its configuration e.g. name, logo, white-label customization, authentication policy from the API and bootstraps itself accordingly

- Worked closely with designers and product owners to iterate through several versions of K8s cluster management and application management workflows
- Collaborated on the development of NetApp Kubernetes Service API using Golang and GraphQL
- Collaborated with Cluster Builder team to incorporate the next generation of cluster creation workflow in the VueJS app

CONSULTANT ARCHITECT AT [StackPointCloud](#)

February 2016 – September 2018 (2 years & 7 months), Remote

- In charge of the web app & REST API service of Stackpoint.io, an app to create kubernetes cluster on different providers e.g. AWS, Azure, Digital Ocean, Packet, GCE, GKE with a few clicks
- Developed the web app using Angular, visuals based on Angular Material
- Developed the REST API using Python/django, augmented the REST layer with Celery to perform async tasks
- Worked on setting up interfacing between API layer and Ansible based cluster provisioning backend
- Transitioned the web app & REST API from prototype to developer preview and then to public release
- Transitioned from single user app to organization focused app. Designed and implemented the organization and resource grouping layers
- Implemented a white-label layer allowing the same application instance to serve multiple interfaces customized for different clients with their separate set of users
- Implemented monthly paid subscription model integrating with payment processor (Stripe) and CRM (Zoho), trial management
- Implemented Helm chart repository indexing to display chart metadata in the app, allow them to install charts on their cluster of choice and edit configuration YAML in-browser
- Implemented workflow for federating multiple clusters, selecting & federating deployments for Kubernetes clusters using Federation API

- Implemented Istio management tools to construct network rules using virtual services and manage deployment strategies for enabling/shifting traffic
- StackPointCloud was acquired by NetApp. Generated detailed architecture documents and provided technical guidance throughout the acquisition process

STAFF ENGINEER AT SocialCode

November 2015 – January 2016 (3 months), Washington DC

- Added support for bulk ad creation for Twitter to the internal cross social media platform campaign management application
- Improvised solutions to bridge gaps between Facebook's Dynamic Product Ad API and Power Editor UI in order to help secure DPA clients
- Worked with senior technology management to help applications team reach quarterly goals
- Worked extensively with QA team to implement & promote QA friendly development practices in order to maintain release quality
- Worked with tech leads to determine architectural changes necessary to take the internal ad management tools to the next level e.g. queue based architecture with zero polling across services
- Received Employee of Quarter award for 3rd quarter of 2015 for contributions in securing DPA clients

LEAD ENGINEER AT SocialCode

April 2015 – November 2015 (8 months), Washington DC

- Led multiple projects to reach MVP status for cross social media platform advertisement campaign management application
- Worked in a micro-service environment running multiple backend API service written in django/python
- Coordinated with other tech leads to implement cross platform bulk ad creation interface between application service and per social network platform services
- Implemented an architecture that supports data validation, fitting data into cross platform generic data models for storage, packaging data into batch format per

inter-service agreement for Instagram, Pinterest & Facebook to support bulk ad creation for each platform

- Extensively studied APIs and implemented/enhanced API proxy services for Facebook & Pinterest marketing APIs
- Led teams of varying sizes (3 - 10) consisting of senior software engineers
- Worked closely with UX leads, product leads to successfully carry out projects
- Worked with frontend leads to determine architectural improvements necessary in Backbone/ Marionette JS based web app & path for moving towards ReactJS based solution

SOFTWARE ARCHITECT AT Fairshare.it

September 2013 – April 2015 (1 year & 8 months), Remote

- Led complete product redesign to build a content sharing social network
- Implemented web application using Backbone Marionette, handlebar, Compass
- Established JavaScript unit tests and selenium testing framework
- Worked with UX designer and management to guide technical feasibility of design
- Helped backend API development on Django
- Designed a robust queuing system to handle efficient communication with neo4j backend
- Implemented search mechanism using elasticsearch

LEAD SOFTWARE ENGINEER AT WiserTogether

June 2012 – September 2013 (1 year & 4 months), Washington DC

- Led the design and development of the medical survey system which now serves as the data source for the next generation decision system currently in development
- Driving team members towards best practices in API development using django and frontend application using Backbone
- Driving development for the next generation of WiserTogether product
- Determined the best technology solutions, directing the direction of application engineering, supporting team members in achieving development goals

SENIOR SOFTWARE ENGINEER AT [WiserTogether](#)

November 2011 – June 2012 (8 months), Washington DC

- Enhanced/refactored existing codebase to accommodate rapid deployment of new additions to the product line
- Improved analytical data retrieval performance 3x - 15x by adding a solr based data model on top
- of SQL DB
- Designed and implemented an API based user registration/login system for django, contributed the code to the community as [django-remote-forms](#)

SENIOR WEB TECHNOLOGIST AT [Public Broadcasting Service](#)

July 2008 – November 2011 (3 years & 5 months), Washington DC Metro Area

- Helped develop [PBS LearningMedia](#), a digital media platform for PreK-12 classrooms that delivers PBS content in various formats
 - Worked on a solution that allows dynamic creation of white label media platform sites for PBS stations
 - Developed several core applications using django on server side & Backbone, a Javascript MVC framework on browser side
 - Participated in design and implementation of a system that is nearly 100% API powered
 - Implemented API security layer using oauth
- Developed API subsystem for PBS UUA (OpenID based universal login for all PBS sites)
 - Extended OpenID standards to allow users to log out of PBS UUA from consumer site
- Helped develop Peer Connection, a social networking and collaboration tools for PreK - 12th grade teachers using Django and Python
 - Actively participated in full development cycle from planning to testing
 - Researched, integrated & fine-tuned Solr engine as search solution
 - Optimized Django ORM calls, improve response time up to 300%

- Helped develop [TeacherLine](#), a professional development service website in Django that offers graduate level courses to PreK–12th grade teachers
 - Implemented web driver based testing using Selenium
 - Developed integration API in PHP to allow TeacherLine to communicate with Moodle
 - Implemented message queue solution using Celery & RabbitMQ

SOFTWARE ENGINEER AT BCI, Inc.

December 2007 – July 2008 (8 months), Washington DC Metro Area

- Researched SS7 protocols e.g. MTP Level 3 in order to add SS7 interfacing support to an existing SIGTRAN only Intelligent Network system
- Researched Service Creation Environment (SCE) & Service Management Environment (SME) for the above-mentioned system
- Designed & developed web based User & Subscription Management System for BCI Long Distance & Calling Card Subscribers
 - LAMP based solution powered by custom PHP framework
- Developed the website of BCI, Inc.
 - Implemented information posting and management system in PHP

MEMBER, RESEARCH & DEVELOPMENT AT Commlink Info Tech

November 2006 – August 2007 (10 months), Dhaka, Bangladesh

- Designed and developed an in-house replacement for Intelligent Network Service Control Point Server
 - Researched SIGTRAN family of protocols: M3UA, SCCP, TCAP, INAP & SCTP
 - Participated in business requirement analysis and database schema design
 - Implemented the protocol layers in Linux (except SCTP)
 - Developed 80% of the core business logic using C++ and SQL
- Partly developed IN database (PostgreSQL)/ billing server connectivity layers

- Designed and developed interface for the website of Banglaphone Ltd. using HTML, CSS & JavaScript and worked to fit the interface on the existing PHP content management framework
- Designed & developed website for East West University, Dhaka, Bangladesh

Education

M.SC. IN COMPUTER SCIENCE AT [George Washington University](#)

2008 – 2011

- Successfully defended thesis on the topic KMux: Kernel Extension at The Hardware Interface under Dr. Gabriel Parmer, Dept. of CS, GWU

B.SC. IN COMPUTER SCIENCE & ENGINEERING AT [Bangladesh University of Engineering and Technology](#)

2001 – 2006

Misc.

- Former host of [SF Kubernetes Meetup](#)
- Speaker at djangocon, [2011](#) and [2012](#)
- Open source contributions on github.com/tarequeh
- Videography on vimeo.com/tareque