Golam Md Muktadir

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Golam is a software engineer and researcher with a 12-year track record of successfully organizing and assigning duties across engineering and research teams. With solution architecture experience, he understands business goals and priorities and is capable of aligning and leading the technical team toward a united purpose.

One of his key strengths lies in risk management for research-based initiatives. He possesses the ability to make informed decisions on project timelines and resource allocation, ensuring that projects progress in an incremental and well-structured manner. He has guided scientists and engineers toward delivering exceptional results through well-planned strategies.

Leadership & Management Experience:

- 12-year track record of leading and managing engineering and research teams.
- Solution architecture experience, aligning technical teams with business goals.
- Proficient in risk management for research-based initiatives, guiding incremental approaches.
- Led a group of high school and undergraduate students to publish papers at reputed conferences.
- Lead organizer of SceGen: Workshop on Scenario Generation for Testing Autonomous Vehicles at IEEE Intelligent Vehicle Symposium, 2023.
- Mastered project estimation and ensured on-time delivery in various software development projects.
- Implemented innovative methods to achieve agility in undergraduate software engineering teams.
- Built effective teams by recognizing and leveraging diverse skill sets for NLP Projects.
- Led development of datasets for machine learning and natural language processing projects.

Notable Work Experience

Futurewei Technologies, Inc.   *Santa Clara, CA, USA*
Research Intern - Distributed Computing   *Jun 2019 - Aug 2019*
Projects:

- **Elastic scaling of servers using Reinforcement Learning:** Scaling up and down servers is a problem in practical large-scale applications. If not done effectively, scaling up introduces server under-utilization, and scaling down introduces the unavailability of services. During my research,

Golam found that most automated approaches are rule-based and created by human experts. A major problem is that it cannot adapt to different applications. Golam introduced a machine learning approach using reinforcement learning, where an AI agent learns how and when to scale up and down based on experiences gathered while in production. In this approach, each agent can efficiently learn application-specific algorithms to optimize server usage and reduce unavailability. *Tech: Kafka, Kubernetes, Docker, Istio, Python*

REVE Systems Limited.   *Dhaka, Bangladesh*
Senior Project Manager & Software Architect   *Jun 2016 - Sep 2018*

1. **2017-2018: Research Project Manager, NLP Applications:** In this endeavor, I built and led a team of 30+, including engineers, researchers, and data annotators, to propose solutions for natural language-based applications for the government of Bangladesh. With no prior knowledge of NLP, during my free time, I extensively reviewed the literature on key NLP tasks, language modeling, corpus development, and sequence modeling with RNN, LSTM, and transformers. *My solution architectures created the stepping stones for NLP projects for the government of Bangladesh. Tech: Python, Tensorflow, Java, Springboot*

2. **2017: Research Lead:** OCR for Bangla, Bangla Grammar and Spell Checker, Bangla Sign Language Translator for the government of Bangladesh. Developed a fast and efficient algorithm for suggesting correct words in case of replacement errors in words recently. It is faster than the edit distance.

3. **2017: Architect & Project Manager, VashaGuru Language Training Application:** The VashaGuru project is a milestone for the Information and Communication Technology (ICT) Ministry of Bangladesh. I spearheaded a team of 17 engineers from Reve Systems Limited and professors from Bangladesh University of Engineering & Technology (BUET). I also Led the development of datasets for eight languages. *Tech: Java, Springboot, C#, NET, WPF, Redis, ActiveMQ, JAX-RS, RxJava* [Tech Challenges] [Project Info]

4. **2016: LawBase:** A database and search engine of cases, acts, books, and journals for lawyers. It has a very complicated data model. *Tech: Springboot, MongoDB, Apache Solr* [Tech Challenges]

5. **2016: Disaster Management:** Golam led the disaster management software platform for the government of Bangladesh. During a disaster, the local government needs to access vehicles, tools, and facilities from both government and non-government organizations. With the disaster management tool, different organizations can update and manage their inventories with location information. During a disaster, the requisition is facilitated with the search features on a radius-based map search. *Tech: Java, Struts, Servelet, Bootstrap, MongoDB.*

ICode Bangladesh   *Dhaka, Bangladesh*
CEO   *Dec 2010, June 2016*

1. **2014: Urboshi:** Urboshi was the first social network startup for women in Bangladesh. Golam led a team of 30+ and got to work with designers, content writers, and business and salespeople directly. This is when he started studying cognitive psychology and neuroscience and started data analysis to identify different types of users and the days and times they engage more with content. This data-driven approach empowered the marketing team to create effective plans, resulting in a remarkable user base of 250K in a year. *Tech: PHP, LAMP Stack, Linode, VPN, Redis, Bootstrap, HTML, CSS.*
2. **2015-2018: Social Media Club**: SMC is the world's largest community of social media professionals. Golam build its new web application in 2015 to manage its events, memberships, and chapters across the globe. He gave several year-long support to their ongoing improvements till 2018. With the tools he developed, the organization reduced the amount of human effort needed to manage a large and ever-changing community of social media professionals. *Tech: PHP, WordPress, HTML, JQuery, CSS* [Web]
3. **2011-2018: Prestaworld**: Prestaworld was the e-commerce subsidiary of ICode, which built and sold several e-commerce plugins for Prestashop, one of the most popular e-commerce applications for small business owners. Golam developed a set of SEO modules with another partner and sold thousands of subscriptions earlier in his career. *Tech: PHP, LAMP, Prestashp, E-commerce*. [Web]
4. **2012: SiteComs:** Construction worker management through web, SMS, and email.
5. **2011: Workoutathome.co.uk**: This web application allows personal trainers to manage their clients and exercise programs. Muktadir developed several features to search for personal trainers given a post-code, sign-up for a trainer, create exercise programs for clients, track client progress, etc. **Impact**: Such a tool facilitates online personal fitness training. Here is the internet archive [Web]
6. **2010 - 2012: Wordpress Plugins:** Created over 20 plugins in Wordpress. Notable ones include WPListMailer, WP Invoice, Printkind E-commerce Plugin, Automated Tag Generator, Membership Management, and Protected Content.

Multipay 24 Limited   *South Africa*

Freelance Software Architect   *June 2010 - June 2013*

- **2012: VoucherSolution:** Voucher-based payment gateway with merchant integration API. Cross-business vouchers can be used as a payment method for any merchant connected to VoucherSolution.
- **2012-2013: GlobalGiving.co.za:** Social Network and Fund Raising platform for charities. Charities can set up their profile and build followers and raise funding for causes. **Impact**: A single platform for all the charities in South Africa to promote their cause at minimal cost.

GetACoder.com, Freelancer.com   *Dhaka, Bangladesh*

Freelance Software Engineer   *Dec 2005, Dec 2010*

During this 5 year tenure, Golam developed web applications for businesses as a freelance software engineer. *Tech: PHP, LAMP Stack, Laravel, Android, Java, E-commerce, Worpress, Prestashop.*