

Ahmed Salama

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Current Experience (Cloud Engineering)

Lyft, Seattle - *Senior SWE*

September 2017 - PRESENT

- Fluent in **DynamoDB, PynamoDB**. Expert in **SaltStack** and **Terraform**.
 - Evaluated, tested and enabled features like **Autoscaling, Encryption at Rest, On-Demand** provisioning, through both **SaltStack** and **Terraform**
 - **Point of contact** with AWS representative for incident support, feature requests, private feature previews, etc
 - Helped move and import current AWS resources Dynamo from **SaltStack to Terraform**
 - Provided widespread help and **consultancy to engineers** across the company on **best practices**, design decisions, key choices, and debugging/resolving issues related to DynamoDB/PynamoDB
 - **Operational experience** regarding capacity levels, auto scaling settings, detecting hot partitions and bad access patterns to avoid throttling, decomposing scans.
 - Had the opportunity have to **inside knowledge directly from AWS** during our meetings about the operations of features like Burst Capacity, Adaptive Capacity, Autoscaling, On Demand, Global tables, replication and capacity costs.
 - **Customized a "hacked" version of DynamoDB autoscaling** that respond 4 minutes faster than out of the box solution (at the time response time was 5 minutes to detect a preach)
 - Drove a **company wide effort to upgrade all the services** at the company from earlier versions of PynamoDB versions to 3.2.1. That included planning and executing different requirements(that depends on which version we are migrating from), including format incompatibility, behaviour incompatibility, data migration while coordinating with the owner teams.
 - **Preparing our tables for peak events** by scripts to calculate expected capacity increase, pre scale tables, lock down capacity deploy changes
- Experience with observability and monitoring tools (**Wavefront, Grafana, CloudWatch, statsd, Kibana...**)
- Experience in **microservices, gRPC, Protobuf, EC2, IAM, Docker** containers, **Jenkins**
- Conducted phone **interviews** and laptop interviews and contributed to **questions bank**

- **Mentored other interns and engineers**, putting plans for the projects they worked on, and guiding them along the way. These projects included Lambda, S3, ES, Glue, Athena, AWS Config, Dynamostreams.
- Efforts in writing **design documents**, plans, documentation for new datastores features and runbooks
- Other projects such as:
 - Participation in **decomposing a monolith** PHP service to microservices equivalent in Python/Go while monitoring, verifying and staged rollout
 - Added ability to **generate Pynamo models** from our internal schema representations in Proto

Previous Experience (Machine Learning, NLP)

Microsoft, Seattle - *SWE*

October 2013 - 2017

- **Main focus was to engineered ML features** into the “Relevance Engine” for Bing Ads in order to increase accuracy AUC, precision and recall. Such features included: TF-IDF similarity, WordNet synsets, syntax and semantic features, co-occurrence frequencies, among other features over the years (AUC gains range from 1 - 3% each).
- Built a “**Negative Sentiment Classifier**” for “Microsoft” to detect news queries with negative sentiment in order to prevent showing Ads in sensitive situations, performing at F1-Score of 89% (Data collection, filtering, preprocessing, feature engineering, training, validation and making it production ready)

Carnegie Mellon University, Qatar - *Research Associate*

April 2012 - 2013

- Engineered “**Smart Reader**”, a web-based tool that extracts and displays lexical, semantic and contextual information for arbitrary English documents in a user-friendly way. Paper published in ACL: <http://aclweb.org/anthology/R/R13/R13-1006.pdf>
And <http://www.aclweb.org/anthology/I13-2002>
- Devised and built a “**Word Wrapping Tool**” that considers readability and uninterrupted line of thought when putting line breaks around English text. Paper published in ACL: <http://aclweb.org/anthology/P/P13/P13-2126.pdf>
- **Arabic Dialects Classification** corpus. Paper: <http://nlp.qatar.cmu.edu/papers/SALAMA14.558.L14-1456.pdf>

Microsoft Advanced Technology Lab, Cairo- *Intern*

June 2010 - 2010

- Built "**Arabic Phrase Classifier**" to extract relevant phrases (using ML) considered relevant from arbitrary Arabic documents to be used later in a smart tag-cloud.

Cairo University- *Student*

September 2006 - 2011

- Built a SDK to measure, record, process and translate human brain signals into commands (BCI) with two prototype applications: Eye-Blink Keyboard and Mind-Controlled Wheelchair.
- Developed an "Agent-Oriented Soccer Team Player" for "RoboCup SSL Contest" with intelligent agents that can learn develop, communicate and compete using Q-Learning Reinforcement Learning, 2nd Place locally
- Other projects: "Multi-Agent Algorithm for Robots Routing" <http://rrsi.codeplex.com/>, Timetable Scheduling using Genetic Algorithms, Shape Recognition, and general freelancing