Pengxiang Hu

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Education

2012–2015	**Master**, *Beijing University of Posts and Telecommunications*, *Top 1%*.
2008–2012	**Bachelor**, *Nanjing University*, *Top 30%*.

Work Experience

2015.4– 2018.4	**SDE**, AMAZON, Beijing. Worked at Optimal Inventory Health team. Won "Invent and Simplify" award twice
2019.4– Present	**Senior SDE**, AMAZON, Seattle. Worked at Optimal Inventory Health team. Won "Invent and Simplify" award twice
2014–2015	**SDE Intern**, AMAZON, Beijing. Worked at Optimal Inventory Health team and developed demand decay trend prediction feature

Project Experience

Streamed OIH Planning	2017/03-2018/02. Migrate OIH system from batch processing mode to streamed processing mode. Redesign the system infrastructure by leveaging AWS services including Kinesis, Lambda, CloudWatch, etc. Overall request-level latency is reduced from two hours to several seconds. Build a supportive monitoring system that provides detailed logs, insightful metrics, visulation and analytic support and automatic alarming to drive operation excellence and gain insights into the system. Manage all infrastructures as code for better maintenance and expansibility. Best practises related to monitoring, infrastructure as code and AWS usages are shared and adopted among sister teams.
Application Framework	2017/03-2018/03. Built an application framework to support increasing applications. With this framework, application developers only focus on the business code and do not need to consider other things, such as distributed computation, configuration load, logging, inputs load and aggregation, etc. The framework consists of four layers: business layer, execute layer, cross cutting layer and distributed calcualtion layer. The distributed layer enables appliations to be easily switched among differnt platforms with no side effect, including Hadoop, Spark and single host. The execute layer provides several key components, including a configuration module and an aggregation component. Aggregation component supports depedency graph generation, testable aggregation units, advanced what-if overrides, etc. Cross-cutting layer provides supports for logging, metrics, etc. By end of 2017, all applications are on board.

Prime Now	2016/04-2017/02. Built a brand-new inventory optimization system for Prime Now supply chain. Led the end-to-end solution, including requirements collection, design and development, integration tests, launch and incremental improvement. Designed the system infrastructure including input collection, storage, input/output validation, calculation and output. Collaborated with Prime Now team and successfully launched the project in WW.
Product Life Cycle	2015/04-2016/03. Developed product life cycle prediction feature for inventory optimization based on auto-regression and machine learning. Worked together with two scientists and defined the detailed algorithms. Designed the system structure and got it implemented. Reduced the demand prediction MAPE from 130% to 85% after trying different kinds of tuning techniques, including collecting attributes in different ways, applying data processing/clean, using multiple models instead of one, selecting different attributes / machine learning algorithms etc. One of the projects that helped the team to win the "Science Fair" award in 2015.

Awards

2015	Outstanding Graduate Student Honor
2013	First Prize Scholarship
2011	Honorable Mention of Mathematical Contest in Modeling
2010	Third Prize Scholarship

Languages

English	Intermediate	*Conversationally fluent*
Chinese	Mother tongue	