

# MS in Statistics program

**“To fulfill my goal of becoming  
a global solution provider”**

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Prepared for  
**Stony Brooks University**



## **My approach & Understanding**

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## To be CLEAR... Self Introduction (Personal)

- ✓ **Understand how to collaborate and share things with each other than staying in individual happiness**  
Experience the level of creativity allowed in Canada, I had a dream of going abroad, on a bigger stage.



- ✓ Have been grateful and satisfied with all the things given to me - a stable family, faith and love, and financial leisure that does not overflow. If I hadn't practiced sharing, such as IT Volunteer work in Ecuador and supporting students in Zimbabwe, I might have lived a very personal life. However, through such a precious experience, I hoped for a shared future rather than staying in individual happiness.
- ✓ When I was in Canada, I saw firsthand the degree of diversity accepted and appreciated in Canada and the level of creativity allowed. I was moved by the possibilities that an open society can bring to its members. Since then, I had a dream of going abroad, on a bigger stage. To this end, I made endless efforts, such as a Master degree program and studying English, and came to Oracle, which would become a stepping stone to my future dream. At Oracle, I had a lot of experience, such as carrying out overseas projects with global experts.
- ✓ Now is the time to take the next step toward my dream. My next destination is Stony Brooks University, and I want to work at a global tech company or a financial institution for 3 years, understand the flow of the US and global markets, and start my own business in 5 years.



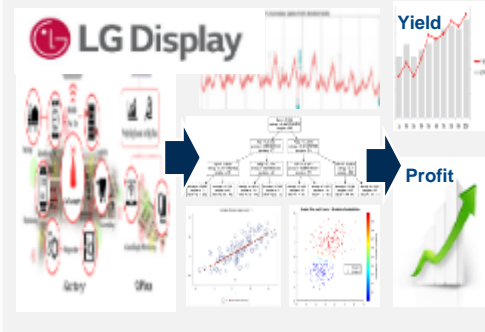
## To be CLEAR... Self Introduction (Professional)

- ✓ Ready to share my experiences in the field of data science, and be confident to create synergy in academic activities and collaborate with colleagues at Stony Brooks University

### My expertise in Data Science field and my enthusiasm for learning

- Data Scientist (LG Display) ('13.01~'19.05)

“ Provide business value by analyzing data and developing models so as to excavate insights for the front-line employees ”



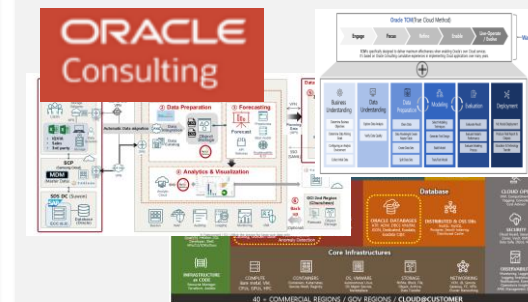
- KAIST Master of Science in Information Management ('16.09~'19.01)

“ An interdisciplinary program that combines data analysis, strategy, and management (Lectures: Business Analytics, Big data Analysis, App development, IT system Design, IT business Management) ”



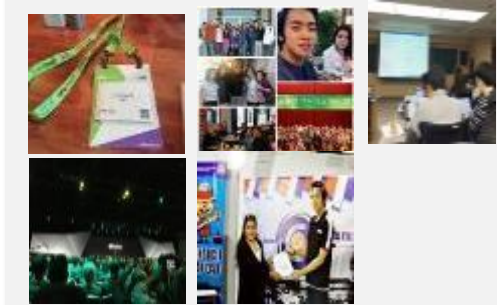
- AI/ML & Data platform Consultant (Oracle) ('19.05~present)

“ Provide consulting services to design data architecture and develop AI/ML & Data platform to build data-driven enterprise ”



- Enthusiasm for learning (~Continuous)

“ Externally activities to improve my technical knowledge in Data Science and academic subjects “



- Implement multiple ML/data analysis projects

→ Develop an anomaly detection model and monitoring system with ANN algorithm, enabling early error detection of pixel deposition facilities. (Reduced annual defect rate by 0.2%)

► Python, SAS(JMP), Spotfire, Matlab, Excel,  
Stony Brook University

- Research: Expected Values on the Continuous Intention to Use IoT Products from the Perspective of Expectation-Confirmation Theory (user, survey data)
- Data analysis & ML Projects with startup companies (Recommendation system, churn & conversion rate, target marketing, and log data analysis)  
► Python, SPSS, Smart PLS, Mysql, OracleDB

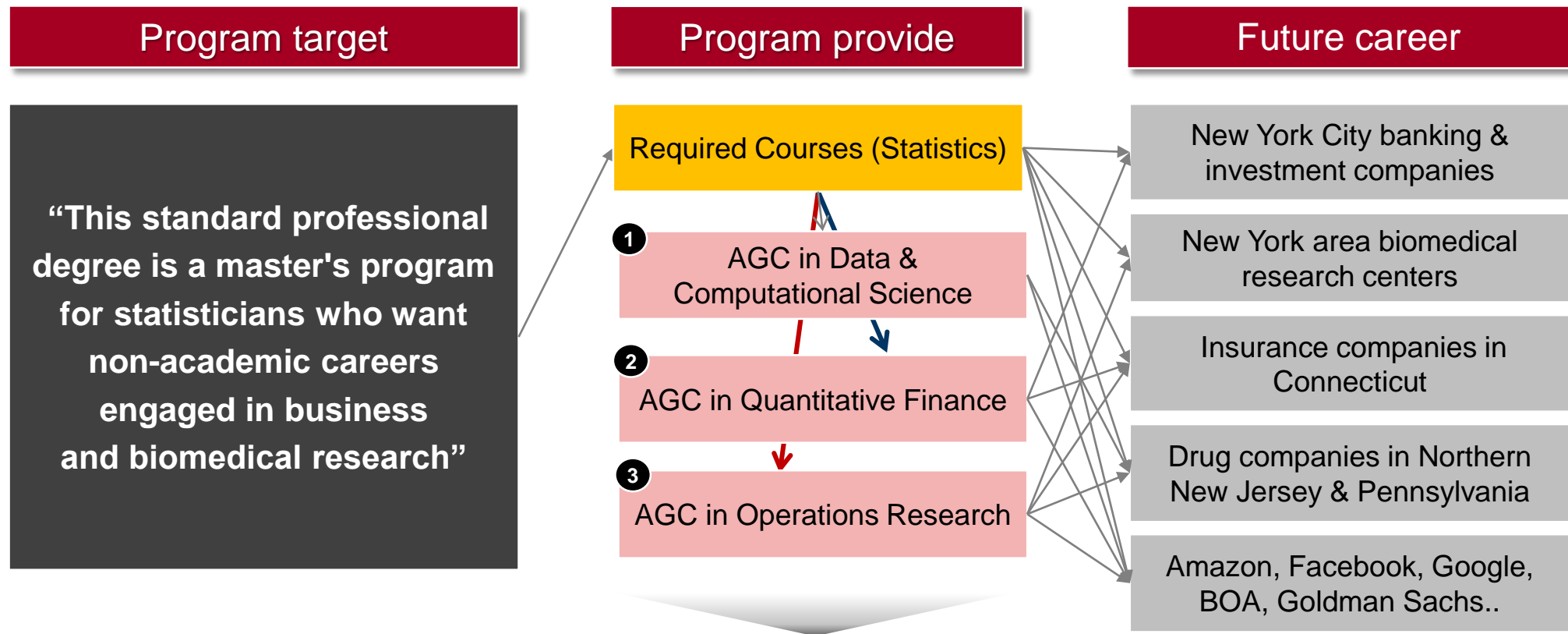
- Implemented multiple AI/ML & data platform projects (Industry: pharmaceutical, distribution, manufacturing, insurance, banking)
- Engage in proof-of-concept work or product demonstration for clients to deliver data strategy and insight based on clients' requirements.  
► Python, Oracle solution (OML, OAC, Data Science, AI Service)

- External efforts:  
**Oracle professional training** (Analytics, Database, Cloud Infrastructure, Architecture)  
**Courses** (Linear Algebra, Multivariate Calculus, Statistical Inference, Randomized Algorithms, Data Structure)  
**Conference & Volunteer work** (KORMS conference, NVIDIA GTC 2018, IT Education volunteer(Ecuador))

## To be CLEAR... My understanding of MS in Statistics program at Stony Brook University

- ✓ **Stony Brooks MS in Statistics program offers fundamental statistics knowledge through required courses and Advanced Graduate Certificate program to further strengthen and broaden background**

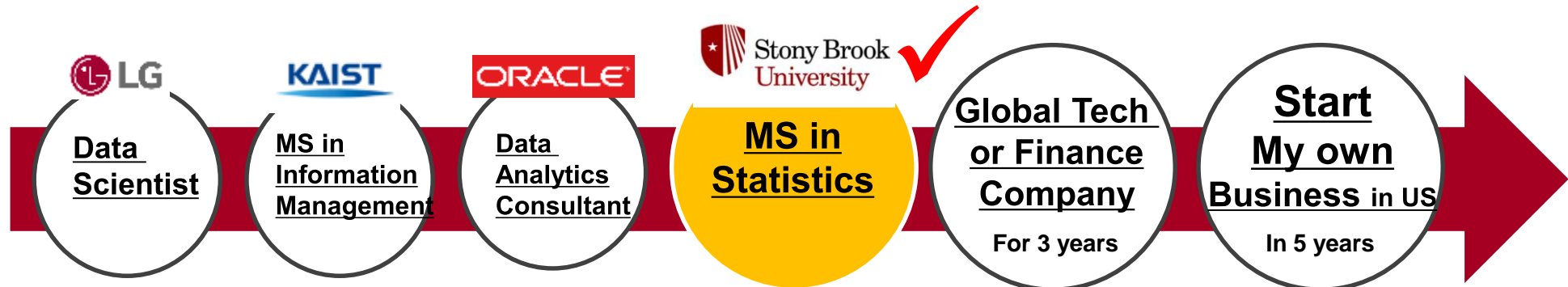
### Stony Brooks MS in Statistics program overview



**Goal:** “ Boost knowledge of how to apply these skills to real-world problems ”

## To be CLEAR... Why Stony Brooks MS in Statistics program ? (My progress)

- ✓ Having master's degree in Stony Brooks which is the best Statistics program across the globe is prerequisite for my future objectives to start my own business.



- ✓ In 2019, I decided to pursue my journey at Oracle in order to aid in preliminary work for companies in a variety of industries seeking to start data transformation. Oracle allows me to develop into a better-equipped analyst and entrepreneur. I'm able to understand different market demands by facing unmet needs by serving consulting services to multiple clients in a diversity of industries. I plan to develop my own solution for the existing numerous Small and Midsize Businesses (SMB) each with its unique set of needs. With the lessons from my career and degree program, I aspire to develop the AI/ML based solution package that will help SMBs in their operations across the world.
- ✓ Having a master's degree from Stony Brooks which is the best statistics program across the globe is a prerequisite for my future objective to start my own business. I will make my partners and, expand my technical and theoretical knowledge. Also, I will have time to quench my thirst by reading and understanding various research papers and finding things that can be applied. In particular, I want to deepen my knowledge of quantitative finance and time-series analysis. I'm certain that I will be able to accomplish my goals and create meaningful results by partaking in the MS in Statistics at Stony Brooks.

## To be CLEAR... My Course Schedule in Stony Brooks University (preference 1)

- ✓ **Quench my thirst through Data & CS Certificate Program (In particular★) so as to fulfill my future objective**  
**Plan to take 4 semesters (44 credits): Requirements (33), Certificate (CS+JRN+AMS(1): 11)**

	Year 1			Year 2		Curriculum	
Calendar	Fall (Sep- Dec)	Spring ( Feb - May )	Summer ( Jun - Aug )	Fall (Sep - Dec)	Spring (Feb - May )	Certificate Choice	Advanced Graduate Certificate in Data & Computational Science (17credits=3AMS+2JRN+2CS)
Credit	12 credits	12 credits	-	9 credits	11 credits		
1	AMS 507: Introduction to Probability	AMS 570: Mathematical Statistics I		AMS 586:★ Time Series Analysis	AMS 597: ★ Statistical Computing		↑
2	AMS 510: Analytical Methods for Applied Mathematics and Statistics	AMS 573: Design and Analysis of Categorical Data		CSE544: ★ Prob/Stat for Data Scientists	JRN 501 (1) JRN 503 (1)	CS / Journal / AMS (1) courses	CS: 2 courses Journal: 2 courses (2credits) AMS: 1 course
3	AMS 572:★ Data Analysis	AMS 578: Regression		AMS 588: ★ Failure and Survival Data Analysis	CSE545:★ Big data Analytics		+
4	AMS 595: Fundamentals of Computing	AMS 530: Principle in Parallel Computing			AMS 550: Stochastic Model	Statistics requirements	11 courses (9 + 2 electives)
						Total	44 credits

★ Important courses for me to enhance my knowledge are needed

※ Total of 32units is required for graduation

## To be CLEAR... My Course Schedule in Stony Brooks University (preference 2)

- ✓ **Quench my thirst through QF Certificate program (In particular★) in order to fulfill my future objective**  
**Plan to take 4 semesters (45 credits): Requirements (30), Certificate (QF+AMS: 15)**

	Year 1			Year 2		Curriculum	
Calendar	Fall (Sep- Dec)	Spring ( Feb - May )	Summer ( Jun - Aug )	Fall (Sep - Dec)	Spring (Feb - May )	Certificate Choice	Advanced Graduate Certificate in Quantitative Finance (QF) (15credits=3QF+2AMS)
Credit	12 credits	12 credits	-	12 credits	9 credits		
1	AMS 507: Introduction to Probability	AMS 570: Mathematical Statistics I		AMS 586: ★ Time Series Analysis	AMS 597: ★ Statistical Computing		↑
2	AMS 510: Analytical Methods for Applied Mathematics and Statistics	AMS 573: Design and Analysis of Categorical Data		AMS 511: ★ Foundation of Quantitative Finance	AMS 512: ★ Portfolio Theory	QF / AMS(1) Courses	AMS 511, 512, 513 AMS: 1 course
3	AMS 572: ★ Data Analysis	AMS 578: Regression		AMS 588: ★ Failure and Survival Data Analysis	AMS 513: ★ Financial Derivatives and Stochastic Calculus		+
4	AMS 595: Fundamentals of Computing	AMS 550: Stochastic Models		AMS 598: Big Data Analysis		Masters Courses requirements	11 courses (9 + 2 electives)
						Total	45 credits

★ Important courses for me to enhance my knowledge are needed

※ Total of 32units is required for graduation



## To be CLEAR... My area of interest

- ✓ Would like to work on developing methods to promote the use of data analysis, especially with regard to financial time-series analysis, big data analysis, forecasting, and quantitative finance.

### My interest in Data Science

- ✓ **Time-series analysis**
- ✓ **Sales & demand forecasting**
- ✓ **Big data analysis**
- ✓ **Quantitative Finance**
- ✓ Anomaly detection
- ✓ Customer satisfaction prediction
- ✓ Recommendation model

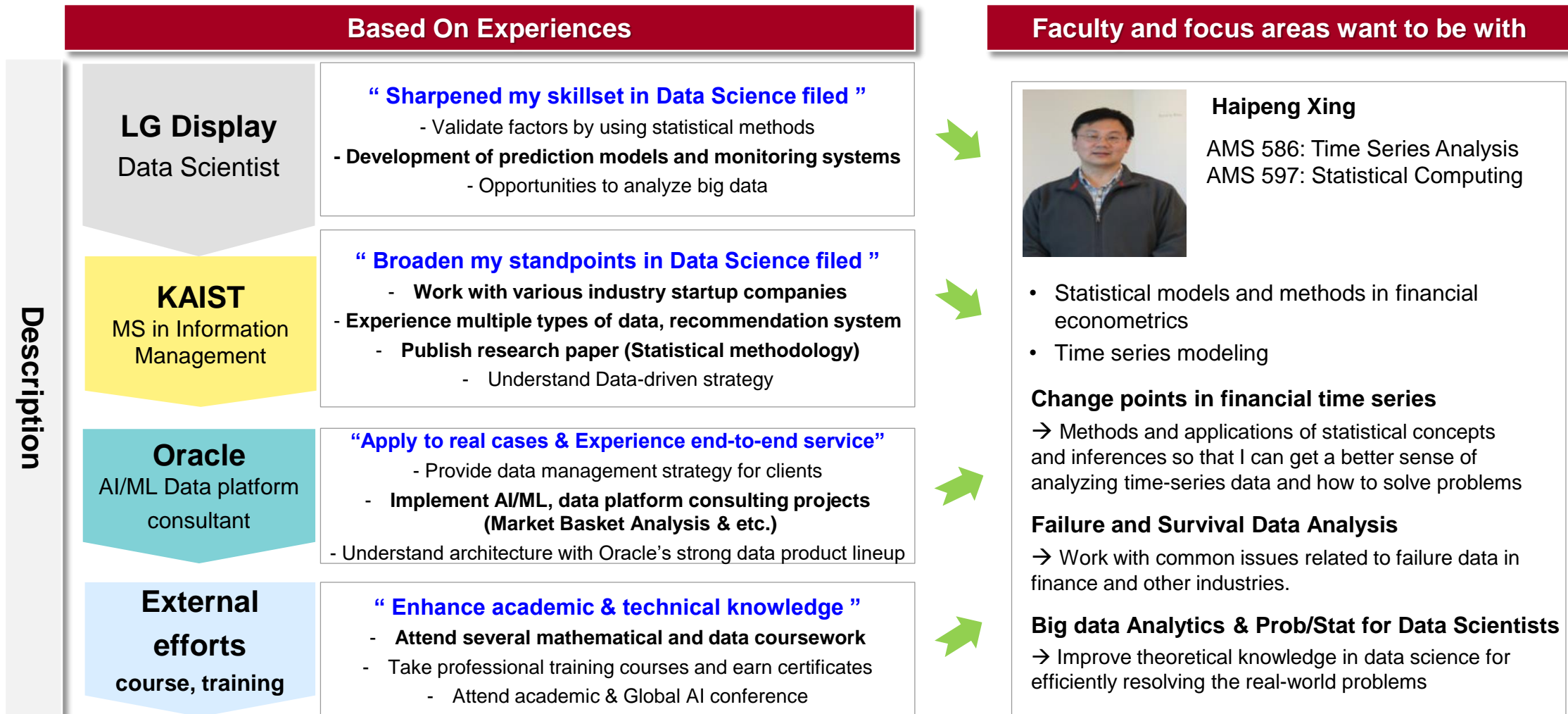


### Deepen my knowledge at Stony Brooks

- ✓ High-dimensional Time-series analysis
- ✓ Development of driver factors  
(Find out factors affecting the model's performance)
- ✓ Change points in financial time series
- ✓ Statistical models for the stress test
- ✓ Forecasting for new launching products  
(Without historical data)
- ✓ Explainable recommendation
- ✓ Graph-based recommendation
- ✓ Sentiment-based recommendation
- ✓ Fake review detection

## To be CLEAR... Why Stony Brooks MS in Statistics program ? (My direction of study)

- ✓ Deeply impressed by Haipeng Xing's work, I would like to study the change points in financial time series and time series modeling with him, as well as improve my theoretical knowledge in Data Science filed.



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