KBTG Machine Learning
Academic Partnership Programs (MAPS)

Bootcamp 2016

Background

"KBTG Machine Learning Academic Partnership Programs" (MAPS) is a collaboration between KASIKORN Business-Technology Group (KBTG) and Department of Statistics, Chulalongkorn Business School (CBS) with aims at:

1. Promoting and encouraging machine learning study and research in the university, and
2. Raising awareness of machine learning courses at CBS and career opportunity and continuing study support at KBTG.

The first activity of MAPS will be "MAPS Bootcamp 2016" which starts with an audition of student teams on solution to solve one of the four machine-learning use cases provided by KBTG. Three chosen teams will have an opportunity to join a two-month project-based machine-learning internship program called MAPS Bootcamp 2016 at KBTG office in Muang Thong Thani.

Prizes

Upon qualified completion of the bootcamp and final presentation of the project outcome, each team will be eligible for one of the following prizes:

- THB 20,000 for the team with the highest score,
- THB 10,000 for the team with the 2nd highest score, and
- THB 5,000 for the team with the 3rd highest score.

Team Qualification

The following are required for the team to be qualified for the audition:

1. Team members consists of 3 to 4 CBS 3rd or 4th year students,
2. At least 2 of the team members must be from the Department of Statistics,
3. A team name,
4. A team captain (for contact and facilitation purposes), and
5. The machine-learning user case selected by the team.

The Learning Use Cases

To ensure realistic and challenging learning experiences for CBS students participating in the audition and bootcamp, KBTG proposes four machine-learning use cases which are based on real business scenarios as the following:

1. **Social Dimension** – given a database of customer information containing customers' physical identifiers, 1) find a way to discover each customer's social identities such as Facebook, Twitter or Pantip account or screen name, 2) create a knowledge graph that links the customer to her/his social identities, and 3) capture some key interests or preferences by identifying relevant social relationships and activities as can be extracted from the social identities,

2. **Sentiment Analysis and Product/Service Identification** – given a collections of customer email messages, social media postings and comments recorded by call center related to KBANK products and/or services, 1) calculate a sentiment value of each message in the form of +/- [0 to 10] value where the positive/negative defines positive/negative sentiment and the value defines the magnitude of the sentiment, 2) identify products and/or services of KBANK and/or other banks mentioned in the message,

3. **Personalized Predictive Marketing** – given a large dataset containing records of historical customer credit card transactions, 1) find a way to identify and extract significant card usage patterns of each individual customer if exist, and 2) predict when the customer will likely to use the card again. The prediction should be in the form of "*Customer C will likely to use credit card number N for purchasing product/service S at place P on date D*",

4. **Approximate Content Matching** – given an input string of Thai or English text, such as a person name, a place name, or a name of banking product/service, find a way to match the input string with the most similar string(s) in pre-defined dictionaries e.g. dictionary of place names, dictionary of customer names, dictionary of banking product and service names etc. The input string will contain typos, noises and/or be in different forms e.g. "เช็นทรัลพระรามสาม" vs "เซ็นทรัลรามา 3". The output should be in the form of "*String S1 is P% similarity to S2*" where S1 is the input string and S2 is a matched string from the dictionary. The result should contain all strings in the dictionary which have similarity values above a configurable threshold.

More information about the machine-learning use cases can be found at:
https://github.com/kbtgmaps/bootcamp2016/tree/master/learning-problems

The Audition

The objective of the audition is to allow CBS students to showcase their talent, skill and understanding of machine learning and related fields, such as Natural Language Processing (NLP), as well as creativity and innovation, and to **select three teams for MAPS Bootcamp 2016**.

For the audition, each student team will conduct a 25-minute presentation to an audience of MAPS Bootcamp 2016 judges and other CBS students followed by a 5-minute Q&A session. The format and content of the presentation is open to team's imagination and creativity. However, the presentation must be 1) conducted with all team members equally take part in presenting the materials, and 2) able to clearly demonstrate, at least but not limited to, the following points:

- Reason and/or inspiration for selecting the selected machine-learning use cases,
- Summary of the proposed solution and expected result,
- Details of the proposed solution, consisting of:
    - Learning definition, learning model and learning process,

- Application approach – how the learned model can be used to satisfy the problem,
- Required input(s) – what will be the inputs required by the solution, and
- Expected output(s) – what will be the outcome of solution.

Based on the presentation and Q&A session, the judges, consisting of representatives from KBTG and professors from CBS, will evaluate each team on the following aspects:

1. Understanding of the selected machine-learning use case,
2. Understanding of machine learning techniques used in the proposed solution,
3. Feasibility of the proposed solution for real-world application,
4. Level of contribution from each team member,
5. Concrete execution plan,
6. Clarify and creditability of the references used for the solution and presentation, and
7. Creativity and innovation.

Invitation to MAPS Bootcamp 2016

All team members of the three selected teams are invited by KBTG to attend MAPS Bootcamp 2016 at KBTG office in Muang Thong Thani during June – July, 2016 to implement the proposed solution.

Team members who only wish to participate and present in the audition may do so without any obligation to attend the bootcamp in the even that the team is selected. However, students who choose to accept the invitation are expected to participation in full time and for the entire period of the bootcamp. If necessary, the vacant spots may be filled with students selected from the next running up teams based on individual performance during the audition.

Important Dates

Application for the Audition	Now until March 27th, 2016
The Audition	April 9th, 2016
Chosen Teams Announcement	April 11th, 2016
MAPS 2016 Bootcamp	June 1st – July 29th, 2016
Final Presentation	July 29th, 2016
Closing and Rewarding Ceremony	August 19th, 2016

MAPS Bootcamp Facilities

The following will be provided to all students attending the bootcamp:

- THB250 daily allowance for each student
- Working space with equipped working facilities at KBTG office
- Project manager, business analyst and technical coaches from KBTG

Traveling to and from KBTG

KBTG office is located in Muang Thong Thani. Traveling to and from KBTG can be via:

- Personal car by Si Rat Express way and Chaengwattana or Muang Thong Thani exits,
- Commercial van from Victory Monument, or
- A special commute between CBS and KBTG may be arranged as appropriated.

Venues

The Audition

IT Studio, 9th Floor, Mahitaladhibesra Building
Chulalongkorn Business School

MAPS Bootcamp 2016

KASIKORN Business-Technology Group
46/6, Moo 3, Popular Rd, Baanmai, Pakkred,
Nonthaburi 11120

Google map:
https://goo.gl/maps/h8jWZbtMieK2

Information and Questions

For information and questions regarding the audition and the bootcamp, please contact:

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