

Final project

The goal of the final project is to expose the students in Business Analytics to a complete analytics workflow with a variety of tasks. They will use the full spectrum of skills acquired in the program, challenge themselves and learn something useful in the process and create value for the partner company. Throughout the project, students will interact with clients in the host company, analysts, IT engineers, and vendors of analytics solutions.

Examples

Insurance Ltd. sells many insurance products through a variety of channels. Customer data are stored in separate data silos for each market segment (e.g., life, home, car, travel), and there are often duplicates across sales channels (e.g., brokers do not check for existing customers but enter everyone as a new customer). In order to analyze customer behavior (e.g. churn) in all segments jointly, senior analysts need to merge all data by the same user. This requires entity resolution and unique user ID in all data silos. The student will study the various datasets, research entity resolution tools, conduct some tests with one or more prototype, and propose a solution to senior management.

Webstore Kft. is an online store of sporting goods. They want to evaluate the effectiveness of past social marketing campaigns. The management would like to know the average spending of new customers. Clickthrough rates are measured, but Webstore does not have information on conversion: if and what the newly acquired customers bought. Discussing with the person responsible for social campaigns, and the person running the website and maintaining the log, the student helps approximately identify new customers in the log and estimate their spending. She presents the results under alternative assumptions to the management. Together, they also propose a method for tracking conversion better.

Banking Ltd. is a financial company issuing credit cards. They have an existing model for predicting credit card non-payments which they want to improve. They have just launched a Hadoop project so they require a student with Hadoop expertise. Student meets with clients and analysts to understand current model and the need for improvement. Research current dataset and other data that can potentially be used to help predict default. Working as part of the analytics team, builds a prototype of a new machine learning model and tests its performance. Presents results to clients.

Resource needs

Each student has a **mentor** appointed by CEU and a **host** in their host company. The host company provides access to the necessary **space, people**, computer, software **tools** and **data**. The precise resource needs depend on the project and are negotiated in advance with the help of the mentor.

Benefits to host company

- Temporary staff with high technical skills and sensitive to the business environment; more dependable than entry-level interns.
- Consultations with CEU mentor.
- Access to latest technologies and trends.
- New perspective on a particular analytics problem or the analytics workflow.

Responsibilities

Student

- Select a host company and a project.
- Meet with mentor early on to discuss plans.
- Meet with mentor biweekly during the implementation of the project.
- Identify and understand business needs of host company clients.
- Select appropriate tools and provide best effort to address those needs.
- Complete deliverables by deadlines below.
- Maintain code of academic ethics, workplace rules of host company, and nondisclosure as agreed in project plan.
- Immediately raise concerns about project with mentor.

Mentor

- Help select a topic.
- Meet biweekly with the student to monitor progress and provide feedback.
- Verify project is feasible within the time frame.
- Discuss with host in case of concerns and problems.
- Verify successful project delivery at all stages.

Host

1. Propose analytics topics relevant to the host company.
2. Together with the mentor, identify the special needs in training, skills and tools.
3. Discuss with mentor and student the proposed project and agree on a plan.
4. Provide access for student to space, people, tools and data needed for successful completion of project.
5. Introduce student to other stakeholders at the company.

Deliverables

- Project plan. Describe the project and the resource needs in one page. Any special need in training, tools or any restrictions (e.g., non-disclosure agreement) should be specified here. Signed by student, host and mentor. Due April 3, 2017.
- Business needs. Student documents business needs as gathered from clients. User stories, scope of the project. Due April 30.
- Estimate of resource needs. Students estimates the resource needs of the project. Who needs to be involved? What time do they need to devote to the project? Any new software or data needs to purchased? Due April 30.
- Preliminary report. This contains the description of the business needs and the scope of the project, results of the analysis with exhibits, and recommendations for management. Due to host and mentor by June 30.