

Projects StatsLab Spring 2012

Project	Title (Language)	Description	Statistical Method	Client Name (DO NOT CONTACT)	Student Name	Supervisor
1	Classification of Pearls	Classification of pearls into different regions / water properties / treatments according to their chemical structure (measured with mass spectrometry)	Classification	Steffen Allner, allner@inorg.chem.ethz.ch		
2	Analysis of Swiss food demand (could be done by more than one person)	The present topic focuses on the estimation of elasticities for Swiss food demand. Elasticities give an idea of the consumer's sensibility with respect to price and income changes. They are helpful for a successful marketing strategy. We choose as an example beef meat and butter. For beef meat we expect a high sensitivity. Price or income changes will be followed by relatively high demand changes, whereas for butter as a necessary product demand changes will be very small. The empirical analysis is based on a rolling panel with information on purchases (quantities bought and prices) of 300-400 household every month for several years and additional information on household characteristics like income or household size, which are normally integrated as dummies into the demand model. As method we propose a so called 'Almost Ideal Demand System'. Due to the huge amount of data a lot of interesting analyses are possible. The Student has the opportunity to decide, which product group he will be analyzing (e.g. different meat categories or milk products). The results will be part of a project on the authority of the Swiss Federal Office for Agriculture. If interested the student has the possibility to write an article or a scientific paper together with the Person who is working on the project at ETH.		Matteo Aepli Agri-Food & Agri-Environmental Economics Group aepli@ethz.ch		
3	Analysis of the influence of working conditions on disabilities and early retirement.	Analysis of the influence of working conditions on disabilities and early retirement. Data from Swiss Paraplegic Foundation in Nottwil.	Logistic regression, longitudinal data	Reinhardt Jan Dietrich jan.reinhardt@paranet.ch		
4	Modelling relocations from/to the City of Zurich – effects of social repression?	The Statistical Office of the City of Zurich holds historical data on relocations to/from Zurich City. In addition to the typical person characteristics (age, sex, origin, residential area) other socio-economic factors are available (highest level of education, income class). The project shall characterize the relocations according to these factors and possibly model them using the available covariates. The aim is to identify potential relationships and investigate the quantitatively. The results of this study can be published in one of the publication series of the Zurich Statistical Office and will have ramifications for the population prognosis and ultimately for the political decision makers.	Descriptive Statistics, Cluster Analysis, Regression, Random Forest; Graphical Models (causality?)	cornelia.schwierz@zuerich.ch "Statistik Stadt Zürich"		
5	Investigation of person characteristics of 30 replacement buildings.	On the basis of 30 recent replacement buildings (urban concentration) the characteristics of the inhabitants before and after the replacement should be determined (age, sex, origin, residential area) and compared between the buildings. The results of this study can be published in one of the publication series of the Zurich Statistical Office and will have ramifications for the population prognosis and ultimately for the political decision makers.	Multivariate Methods, ANOVA, Regression	cornelia.schwierz@zuerich.ch "Statistik Stadt Zürich"	Tulasi Agnihotram	Sophie Schmassmann
6	Planning and Pre-study for a survey	Goal: Develop sampling plan for surveys in (one of) the following areas of interest: building costs, sampling of rental fees, employee survey of SSZ, etc. Potential pre-study with available data. The surveys shall be carried out in 2013. The results of this pre-study can be published in one of the publication series of the Zurich Statistical Office.	Sampling theory, questionnaires. Pre-study: ANOVA, regression.	cornelia.schwierz@zuerich.ch "Statistik Stadt Zürich"		
7	Geostatistical Analysis	Geostatistical Modelling of rental fees/number of vehicles/criminal statistics/number of aged persons, children... Our statistical data are all geo-referenced. So far no geostatistical analyses have been undertaken. However, many of the characteristics are spatially correlated. The goal is to take this spatial dependance into account in the statistical model.	geostatistics, (block-) kriging	cornelia.schwierz@zuerich.ch "Statistik Stadt Zürich"		
8	Page access statistics, Search Term Statistics	We would like to optimise our websites to make the information more easily accessible. Thus we are interested in how and if our clients find the information on our websites. We would like to analyse indicators such as, how long a person rests on a certain page, what search terms they are looking for, what the end page is before they leave the site, how many clicks it takes them to find what they want.	Data Mining / Statistical Learning. E.g. PageRank (Google) ?	cornelia.schwierz@zuerich.ch "Statistik Stadt Zürich" ; evtl Grüebler Michael oder Marc Sieber	Nilkanth Kumar	Bernd Fellinghauer
9	Mobilität der Zürcher Bevölkerung	Anhand der Daten des Mikrozensus Mobilität und Verkehr (MZMV) sollen Fragenstellungen zur Mobilität der Zürcher Wohnbevölkerung beantwortet werden: Welche Distanzen werden mit welchem Verkehrsmittel zurückgelegt? Was gibt es für einen Zusammenhang zwischen soziodemografischen Merkmalen und Mobilität? Gibt es verschiedene Mobilitätstypen?	ANOVA, regression	simon.villiger@zuerich.ch "Statistik Stadt Zürich"	Lennart Schiffmann	Anna Drewek
10	Sterbefälle in der Stadt Zürich: Untersuchung der Todesursache	Neben den Daten zu den Sterbefällen in der Stadtzürcher Bevölkerung verfügt Statistik Stadt Zürich über Daten zu den Todesursachen. Diese könnten über auf die Frage untersucht werden, inwiefern sich die Todesursachen über die Zeit hinweg verändert haben. Was gibt es für Unterschiede zwischen den Geschlechtern? Zusätzlich wäre es möglich, die Einflüsse von sozioökonomischen Faktoren oder Meteodaten zu untersuchen.	ANOVA, regression	judith.riegelnig@zuerich.ch "Statistik Stadt Zürich"		
11	Tourismus	Im Bereich Tourismus verfügt Statistik Stadt Zürich über die Anzahl Ankünfte und Logiernächte der Hotels in der Stadt und der Region Zürich. Mögliche Fragestellungen: Gibt es einen Zusammenhang zwischen dem Tourismus und der wirtschaftlichen Entwicklung in der Schweiz und in anderen Ländern? Sind die mit einer anderen Erhebung gewonnenen Zahlen für das Jahr 2004 zuverlässig? Gibt es räumliche Determinanten der Hotelauswahl?	Zeitreihen, ANOVA, Faktormodelle, räumliche Modelle?	rolf.schenker2@zuerich.ch "Statistik Stadt Zürich"		
12	Population-based survey on opinions and attitudes towards post-conflict Justice, reconciliation and transitional justice mechanism (D/E)	A population-based survey was carried out in two major cities in Bosnia and Herzegovina on opinions and attitudes towards justice, reconciliation and transitional justice mechanisms after the armed conflict has ended. Approximately 360 surveys have been entered into SPSS for statistical analysis. The focus of interest is on the influence of certain factors (such as ethnicity of the respondent, employment status, victimization experience during or after the war etc.) on the target variables.	Questionnaire, Descriptive Analysis, ANOVA	Lejla Vujinović, MLaw, LL.M. PhD student University of Berne lejla.vujinovic@students.unibe.ch	Sarah Grimm	Lukas Meier

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13	School survey on opinions and attitudes towards post-conflict justice, reconciliation and transitional justice mechanism (D/E)	A survey was carried out in 16 schools in four cities throughout Bosnia and Herzegovina. The aim was to obtain data on young peoples' opinions and attitudes towards justice, reconciliation and transitional justice mechanisms after the armed conflict has ended. Approximately 600 surveys have been entered into SPSS for statistical analysis. The focus of interest is on the influence of certain factors (such as ethnicity, the city respondents are coming from, victimization experiences etc.) on the target variables	Questionnaire, Descriptive Analysis, ANOVA	Lejla Vujinović, MLaw, LL.M. PhD student University of Berne lejla.vujinovic@students.unibe.ch		
14	Langzeitstudie zu Gruppentherapie mit stotternden Jugendlichen und Erwachsenen	Langzeitstudie seit 1987. Es werden ca. 800 Fragebögen erhoben, darunter ca. 500 vorher und 300 nachher. Alle drei Fragebögen bestehen aus 160 binären Fragen. Man moechte wissen, (1) welche Faktoren es sind, die das Stotterproblem bestmöglich (d.h. kurz, aber genau genug) beschreiben. (2) wie die gewählte Therapieform auf diese Faktoren wirkt. (3) in welchem Zusammenhang diese Faktoren mit einem noch zu definierenden Konstrukt zur Lebensqualität stehen.	Questionnaire	Andreas Starke Höperfeld 23 21033 Hamburg www.andreasstarke.de info@andreasstarke.de		
15	Entlebuch Biosphere	The UNESCO Biosphere Entlebuch has conducted an encompassing survey with tourists with the aim to find out, who typically visits the region, how much money they spend and how happy they were with the stay. Based on the dataset, the Managers in the Biosphere reserve are interested in two main questions (a) What factors influence the amount of money that visitors spend? (b) How could the sampling effort be reduced (less points / less days to distribute the survey) in order to get "good" results with a minimum of effort? These questions, especially question number (b), are important for future repetitions of the survey in visitor monitoring activities.		Florian Knaus, florian.knaus@env.ethz.ch	Iona Negrut	Markus Kalisch
16	Prognose der reformierten Bevölkerung der Stadt Zürich	Die Mitgliederzahl der evangelisch-reformierten Landeskirche in 5 und 13 Jahren sollen vorhergesagt werden. Als Basis stehen Daten über Anteile der Mitglieder an der Wohnbevölkerung, aufgelöst nach Quartier und Alter, sowie Prognosen für die Wohnbevölkerung zur Verfügung.	Modelling, including regression	Werner Stahel, stahel@stat.math.ethz.ch	Reto Christoffel	Werner Stahel
17	Providing customised statistics and statistical critical appraisals in relation to the context of rejected asylum seeking families with children suffering from severe depressive devitalisation (Swedish/English)				Jonathan Samuelsson	Bernd Fellinghauer
18	Project with spin-off from MTEC				Huan Liu	Anna Drewek