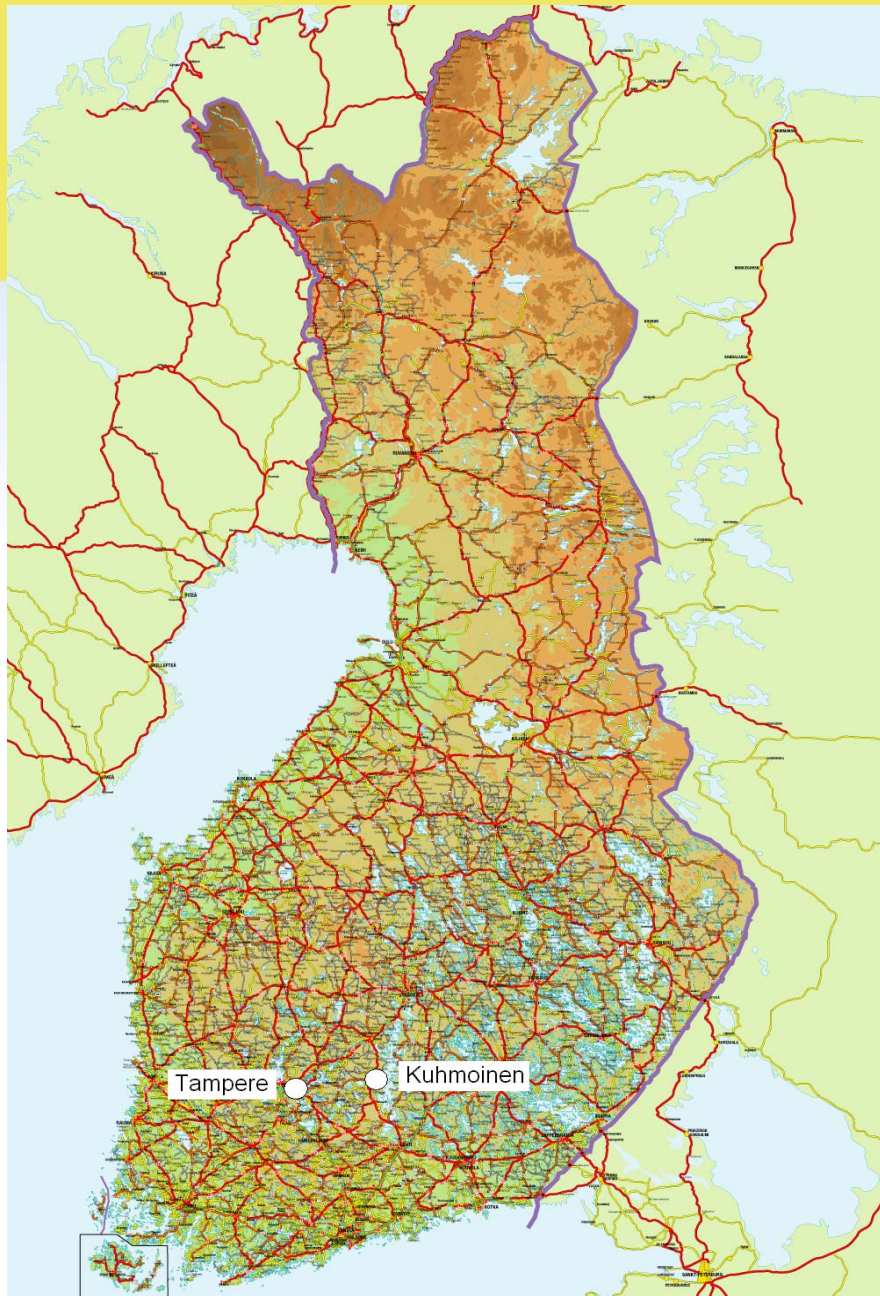


Seminar 28.5.2009

Hanna Eerola





Kuhmoinen



Vanha-Pälsilä farm, Kuhmoinen

<http://personal.inet.fi/yritys/vanhapalsila/english/>



Tampere University of Technology (TUT)

<http://www.tut.fi/>

- Educates Masters of Science in Technology and Architecture
- 12 400 students
 - 10 500 taking undergraduate degree
 - 1 900 taking postgraduate degree
- 260 TUT students studied abroad in 2006
- 800 international students studied at TUT
- 250 cooperation universities



Department of Mathematics

<http://math.tut.fi/en/>

- Responsible for teaching core mathematics to all engineering students at TUT
- Offers B.Eng, M.Eng, Dr.Tech. and Ph.D. programmes
- Research in mathematics and its applications at an internationally competitive level



In VSE

- Doing a part of my master thesis
- Theory part mostly done, now practical part
- Finnish supervisor Esko Turunen

- No teaching of knowledge engineering nor data mining in TUT (mathematics department)
 - Learnt all while writing the master thesis

- Theory about logic in GUHA data mining method
- Now working on a medical data from Tampere and Kuopio University Hospitals



Data

- Medical research done about diabetes and back of the eye in Tampere and Kuopio hospitals
- Diabetes one of the national diseases in Finland, very common
- 300 patients
- Lots of data collected, 800 attributes
- So far only medical researchers have worked on the data without using any data mining methods
- Cooperation between TUT and Tampere university hospital

- I received the data in the last minute and I am the first one to work on it in addition to medical researchers
- I try to start the work, solve rising problems and thus also help the future students/researchers who continue the data mining process
- I focus on one part of the data
- Try to find some new connections that the medical doctors have not found themselves



N	O	P	Q	R	S	T	U	V	W	X
BETASALP	BSA	BMI	SCAPULA	TRICEPS	SBP	DBP	MAP	HR	GLUCSIX	CPEI
1	1,721884966	29,62689018	22,5	22,79999924	195	90	125	63	7,800000191	3,035000
0	1,732787967	30,35765076	21,60000038	22,70000076	179	110	133	64	9,5	2,164000
0	2,235585928	30,30846024	29,70000076	16,39999962	178	115	136	96	7,900000095	1,146000
0	2,512233973	45,69855118	42	35,09999847	153	100	117,6667023	58	7	2,806999
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1	2,313402891	30,92843056	39	29	192	110	137,3332977	87	10,80000019	1,722000
0	1,868733048	23,21409988	11,10000038	4	147	91	109,6667023	63	6,099999905	1,521000
1	1,861704946	31,67316055	19	6,800000191	155	88	110,3332977	67	4,199999809	0,890999
0	1,810006976	31,48595047	41,5	32,09999847	157	89	111,6667023	73	7,099999905	1,024999
0	1,798364043	29,46608925	23,10000038	21,39999962	144	69	94	83	7,800000191	0,600000
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0	2,175308943	27,02683067	31,89999962	11,60000038	166	78	107,3332977	75	7,300000191	1,588000
0	2,104415894	29,13142014	39	9,699999809	145	86	105,6667023	76	5,599999905	1,690000
0	1,493880987	18,52613068	12,89999962	15,30000019	155	89	111	65	7,400000095	0,851000
1	1,846294045	24,00073051	14,89999962	4,199999809	158	95	116	91	8,399999619	2,230999
0	1,752563953	27,79475975	33,90000153	26,89999962	149	79	102,3332977	72	10,89999962	1,779999
0	1,643072009	26,91604996	26,89999962	31,70000076	184	85	118	74	10,10999966	1,574000
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1	2,019241095	32,03668976	41,5	16,89999962	182	101	128	73	7,800000191	1,855999
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0	1,900725961	36,07962036	41,59999847	34,5	175	101	125,6667023	69	9,699999809	1,990000
1	1,999449015	36,95257187	44,20000076	42,90000153	171	85	113,6667023	89	7,900000095	3,128999
0	1,778228998	22,74204063	19,29999924	6	129	80	96,3332825	50	7,199999809	1,707999
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0	1,995116949	24,40129089	19,20000076	9,899999619	115	64	81	64	7,699999809	1,470000
0	2,145806074	30,7528801	27,10000038	11,69999981	135	75	95	51	8,600000381	2,056999
1	1,716750979	23,05843925	17	8,600000381	173	82	112,3332977	55	4,800000191	0,851000
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1	2,054151058	30,19548035	41,90000153	40,5	182	91	121,3332977	95	11,19999981	4,173999
1	1,711485028	25,68796921	25,29999924	8,5	154	88	110	62	7,199999809	2,420000
0	1,907338023	28,38648987	16,20000076	6,599999905	172	98	122,6667023	59	8	2,673000
1	2,105178118	28,55715942	26	12,30000019	155	90	111,6667023	67	10	0,985000
0	2,231980085	32,77051163	33	18	165	98	120,3332977	79	6,599999905	3,638000
1	1,908349991	31,49407959	42	18,20000076	173	92	119	79	9,600000381	4,843999
0	1,555161953	24,45606041	20,20000076	27,10000038	156	86	109,3332977	61	7,300000191	1,480999
1	2,190418005	33,80447006	34	16,89999962	179	93	121,6667023	54	7,099999905	2,444999
1	1,835562944	27,84796906	28,79999924	30,60000038	192	98	129,3332977	63	15,89999962	2,605999

Data1 Mannu tubiat /

Thank you for your attention!
Feel free to ask questions!

