

# CURRICULUM VITAE

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## EMPLOYMENT DETAILS

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- Oct. 2009 -** **Senior Research Associate – Complexity Group, London School of Economics**  
Research in Complex Social Systems, Organisational Complexity
- March 2007, March 2006, July 2006** **Tutor – Taught Course for Researchers on Complexity Science at LSE:**  
Lectured researchers on Complex Systems, Chaos, Agent Based Modelling with real world applications at London School of Economics.
- May 2003 -** **Lecturer / Assistant Professor -** Department of Biostatistics and Medical Informatics, Akdeniz University Faculty of Medicine, Antalya, Turkey.  
Teaching MSc and PhD students: *Data Mining, Complex Systems and Simulation, Artificial Intelligence and Neural Nets, Java Programming Language.*  
Wrote an Agent Based Simulation in Java for managing COPD (Chronic Obstructive Pulmonary Disease) - a major healthcare issue in the world.
- Sep. 98 –** **Director / Consultant - [SimWorld Ltd](#)**  
**Oil World Simulator:** A coarse grain simulation of the worldwide oil reserves, production, imports, exports, linked to economic growth, demonstrated at Kenos Circle meeting in Vienna, in April 2006  
**Integration of Complex Social Systems (ICoSS) Project:** Modelling Expert for the EPSRC funded project at London School of Economics, investigating Organisational Forms, modelling and simulating patterns of Connectivity in the Work Place  
**Container World Project:** Designed and developed the prototype simulator for the EPSRC funded Container World UK Project for Imperial College, London  
**CommodiCast Inc:** Upgrading, testing and fine-tuning *SimFolio*, a portfolio risk optimisation simulator for global asset allocation and stock selection, for ComodiCast Inc, Santa Fe, New Mexico, US
- Jun. 94 – Sep. 98** **Consultant -** Innovation Centre, J. Sainsbury plc, Stamford Street, London  
Responsible for designing and developing state of the art systems for Forecasting, Optimisation, Data Mining and Decision Support  
**SimStore Project:** Designed and developed a simulator for customer movements in a supermarket as an application of Complex Adaptive Systems, investigated patterns in customer shopping times, and simulated shopping agents  
**Weather Impact on Sales:** Applied Neural Nets for forecasting the impact of weather on sales, extracted Fuzzy Rules linking external events and sales  
**Transport Optimisation Project:** Designed and developed a bespoke optimisation algorithm for Planning and Scheduling of J. Sainsbury lorries.  
**SABRE Space Optimisation Project:** Designed and developed the Shelf Space Optimisation algorithm, using Genetic Algorithms
- Jan. 94 - Jun. 94** **Research Fellow -** Department of Computer Science, UCL, London  
Worked in the European funded RENEGADE project in the research and development of Parallel Genetic Algorithms and their applications
- Jun. 93 - Jan. 94** **Consultant -** Econostat Limited, Hennerton House, Wargrave, Bucks.  
Developed tools for Asset Allocation and Portfolio Management in the Global Bond Markets

- Mar. 90 - Jun. 93**      **Research Assistant** - Department of Computer Science, UCL, London  
**ESPRIT II PYGMALION and GALATEA Projects:** Worked on the research and development for the first European Neural Computer  
**Department of Anatomy, UCL:** Worked in developing algorithms for clustering Neural Spikes from the rat's Hippocampus.  
**DTI/SERC Neural Networks for Financial Services Project:** Investigated the applicability of Neural Nets for financial forecasting
- Aug. 88 - Mar. 89**      **Consultant Programmer** - Hallite Seals International, Middlesex  
Developed a Finite Element Method program in Fortran 77 to predict the deflected shapes, forces and stresses on plastic seals
- Dec. 84 - Nov. 85**      **Analyst Programmer** -The Computer Centre, Bosphorus University, Istanbul  
Designed a system for registration and maintenance of students' records  
Using Dbase II, Cobol, Fortran, Basic and Pascal

## **EDUCATION AND QUALIFICATIONS**

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- Mar. 89 - Dec. 93**      **PhD in Computer Science**  
University College London (UCL), Thesis Title: "*Analysis, Representation and Mapping of Neural Networks onto Parallel Hardware*"  
Research work included: Financial Forecasting, Pattern Recognition, Data Clustering and parallel simulations of Neural Networks using C/C++, TCP/IP
- Sep. 87 - Mar. 89**      **MSc in Robotics and Computer Integrated Engineering**  
Middlesex University, MSc awarded with Distinction by CNA.A.  
Thesis work: Finite Element Method simulations in Turbo Pascal and Fortran 77
- Sep. 74 - Feb. 81**      **BSc in Electronics and Telecommunications**  
Istanbul Technical University, Turkey.  
Learned Systems Theory, Control Systems, Fortran IV and Cobol  
(Also studied at Faculty of Mechanical Engineering for 2.5 years)

## **TEACHING EXPERIENCE**

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### **LSE Taught Course for Researchers on Complexity Science, 2006, 2007**

Complex Systems, Chaos, Agent Based Modelling with real world applications

### **Akdeniz University Faculty of Medicine, Dept of Biostatistics and Medical Informatics, since 2003**

**Teaching MSc and PhD students:** Data Mining, Complex Systems and Simulation, Artificial Intelligence and Neural Nets, Intelligent Systems in Medicine, Java Programming Language

**Teaching Medical Students:** Medical Informatics, Problem Based Education modules, Medical English

### **MSc Theses supervised:**

**Deniz Ozel,** Development of Internet Based Clinical Guidelines for supporting Intensive Care Decision Making Processes in Patient Admissions, Diagnosis and Treatment

**Basak Oguz,** Analysis of Otolaryngology Discharge Notes using Text Mining Techniques, 2009

**Mehmet Kemal Samur,** A Clinical Information System Example with Object Oriented Approach: Pediatric Endocrinology, 2008

**Yilmaz K Yuce,** Development of Administration, Educational and Academic Medical Informatics Portal, 2006

## **SUMMARY**

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I have more than 20 years experience in IT, and have programmed in C/C++, Java, JavaScript. I have worked in small teams in the design and development of small to medium size Programming Environments, Graphical User Interfaces and Simulators.

In 1994, I set up *Guru Intelligent Solutions Ltd.*, and have worked as a Consultant/Contractor. I have designed and developed “intelligent” software tools for Forecasting, Optimisation, Planning and Scheduling applications in Finance, Retail and Logistics, applying a combination of techniques such as Neural Nets, Genetic Algorithms, Fuzzy Logic, Stochastic and Rule Based Systems.

In 1998, John Casti and I jointly set up *SimWorld Ltd*, a consultancy and innovative solutions company, providing state of the art solutions, using the Complex Adaptive Systems approach. The company initially had two main areas of expertise; *SimStore* provides a number of retail/logistics solutions. On the finance side, *SimFolio* provided innovative solutions for fund management. We developed and tested *SimFolio* for optimum risk portfolio generation, and as a toolkit for searching automatic trading programs for equity trading. In February 2001 *SimFolio* was taken over by *CommodiCast Inc*, a Santa Fe company in New Mexico, US. Later, I continued to work with *CommodiCast* as a consultant in the development of new automatic trading systems for the world stock markets.

Between 2000 and 2004, I worked in two EPSRC funded research projects in the UK. Firstly, first, I developed an Agent Based Simulation of the Container Transport in the UK, in the Container World Project based at Imperial College. Later, I was the modelling expert for the ICoSS Project at London School of Economics. For ICoSS, I developed an Agent Based Simulation of Connectivity in the Work Place to investigate patterns of connectivity and informal social networks within a business organisation.

In 2003, I joined the Department of Biostatistics and Medical Informatics, at Akdeniz University Faculty of Medicine, in Antalya, Turkey, and have since been applying Data Mining and Agent Based Simulations technology to healthcare problems.

In 2006 and 2007, I taught Agent Based Modelling in *Taught Course for Researchers on Complexity Science and Complex Social Systems*, at London School of Economics. In 2006, I developed the first version of *Oil World Simulator* for the Kenos Circle meeting in Vienna.

Now I work as a Senior Research Associate, at London School of Economics, Complexity Programme, researching Agent Based Modelling and Complex Social Systems.

Finally, back in 1983, I worked one year as a Community Service Volunteer, helping the elderly in Newham, London. More recently in 2001, I studied a course on Existential Psychotherapy at NSPC, London.

## **PUBLICATIONS**

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Ugur Bilge, Utku Senol, Osman Saka. **Informal Social Networks amongst Administrative Staff at a University Hospital**, *Studies in Health Technology and Informatics*, 2009, 150, p282-286

Center Eken, Ugur Bilge, Mutlu Kartal, Oktay Eray. **Artificial neural network, genetic algorithm, and logistic regression applications for predicting renal colic in emergency settings**, *International Journal of Emergency Medicine*, 03.09.2009, vol 2, no 2, p99-105

Y.K. Yuce, U. Bilge, O. Saka. **MAMAS: Mobile Asthma Monitoring and Assessment System**, *Journal on Information Technology in Healthcare* 2007 5(4): 229-238

Bilge U, Saka O., **Agent based simulations in healthcare**, *Studies in Health Technology and Informatics*, 2006, 124, p699-704

Bozcuk H, Bilge U, Koyuncu E, Gülkesen H., **An application of Genetic Algorithm in conjunction with other data mining methods for estimating outcome after hospitalization in cancer patients**, *Medical Science Monitor*, 2004, 10(6), CR246-251

U. Bilge and F. Franca, **Computing with Neural Networks**, *International Industrial Biotechnology* vol. 9, no. 4, July 1989

## **INTERNATIONAL CONFERENCE PAPERS**

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Bilge Ugur, Senol Utku. Investigating **Informal Social Networks Amongst Administrative Staff at a University Hospital**, Informatica 2009, Informatica Trabajos.pdf p.667, Havana, Cuba, February 2009

Alimoglu M Kemal, Bilge Ugur. **An E-Learning Module to Improve Language Related Communications Skills in Healthcare (E-LANCOM)**, Informatica 2009, Informatica Trabajos.pdf p.676, Havana, Cuba, February 2009

Oguz Basak, Bilge Ugur, Samur M Kemal. **Transforming Unstructured Otolaryngology Discharge Notes into a Structured Form**, Informatica 2009, Informatica Trabajos.pdf p.674, Havana, Cuba, February 2009

Ozbek Fatih, Senol Utku, Bilge Ugur. **A Clinical Decision Support System for Clinicians for Determining Appropriate Radiological Imaging Examination**, Informatica 2009, Informatica Trabajos.pdf p.674, Havana, Cuba, February 2009

Samur Mehmet Kemal, Bilge Ugur, Tosun Ozgur, Turkkahraman Doga, Bircan Iffet. **Software for Patient Record and Oxological Evaluation in Pediatric Endocrinology**, Informatica 2009, Informatica Trabajos.pdf p.671, Havana, Cuba, February 2009

Ozel Deniz, Bilge Ugur, Saka Osman. **Clinical Practice Guidelines in Intensive Care Unit: Preferences and Attitudes of ICU Physicians in a University Hospital**, Informatica 2009, Informatica Trabajos.pdf p.672, Havana, Cuba, February 2009

Y.K. Yüce, U. Bilge, O. Saka, **MAMAS: Mobile Asthma Monitoring and Assessment System**, 5th ICICTH International Conference on Information Communication Technologies in Health, 5-7 July Samos 2007, pp.218-225

Y.K. Yüce, E. Sümen, A. Aktaş, S. Bozkurt, N. Zayim, U. Bilge, **Attitudes of the patients of Akdeniz University Hospital Towards a Short-Message Service Based Appointment Reminder System**, 5th ICICTH International Conference on Information Communication Technologies in Health, 5-7 July Samos 2007, pp.38-43

K. Hakan Gülkesen, Uğur Bilge, I. Türker Köksal, Osman Saka **Use of Genetic Algorithm for Prediction of Prostate Cancer**, HIBIT07, International Symposium on Health Informatics and Bioinformatics 2007, Antalya

Ugur Bilge, Alasdair Honeyman and Osman Saka, **Agent Based Simulations for Chronic Obstructive Pulmonary Disease (COPD)**, Second Middle East Conference on Healthcare Informatics, Dubai, United Arab Emirates, 9-10 April 2005

Ugur Bilge, Hakan S. Bozcuk, Osman Saka, K. Hakan Gulkesen and Emine Koyuncu, **An Application of Genetic Algorithms for Estimating Oncology Patients Chance of Survival**, Proceedings of Euromise 2004, Prague, 12-16 April 2004, p42

Yılmaz Yüce, Ugur Bilge, Osman Saka, **An experimental medical operations broadcast system for educational medicine**, Proceedings of Euromise 2004, Prague, 12-16 April 2004, p117

Ozgur Tosun, Ugur Bilge, Osman Saka, **A Web based decision support software for selecting hypothesis test**, Proceedings of Euromise 2004, Prague, 12-16 April 2004, p37

U. Bilge, A. N. Refenes, C. Diamond and J. Shadbolt, **Application of Sensitivity Analysis Techniques to Neural Network Bond Forecasting**, Proceedings of 1st International Conference on Neural Networks in Capital Markets, London Business School, November 1993

A. N. Refenes and U. Bilge, **Self-Organising Maps in Pre-Processing Datasets for Decision Support in Histopathology**, Proceedings of the North Sea Conference on Biomedical Engineering, Nov 1990