ERGUN M. BİÇİCİ

CURRICULUM VITAE

DEPARTMENT OF COMPUTER ENGINEERING, KOÇ UNIVERSITY
ENGINEERING BUILDING 228, RUMELIFENERI YOLU, SARIYER, ISTANBUL, TURKEY, 34450

EBICICI@KU.EDU.TR ● HOME.KU.EDU.TR/~EBICICI ● +90 (212) 338 1000 EXT. 2640

OBJECTIVE

Researching and developing new and novel solutions to the computing problems of the technology age.

EDUCATION

2005 – 2011   Koç University   Istanbul, Turkey
Doctor of Philosophy (PhD), Computer Engineering

Thesis: The Regression Model of Machine Translation

Concentration: machine translation, machine learning, computational linguistics

2002 – 2005   North Carolina State University   Raleigh, NC
Doctor of Philosophy (PhD) Student, Computer Science

2000 – 2002   North Carolina State University   Raleigh, NC
Master of Science (M.S.), Computer Science

- GPA: 3.7 / 4.00 overall, 3.7 / 4.00 in major

Concentration: artificial intelligence, knowledge discovery, formal concept, commonsense reasoning

1996 – 2000   Bilkent University   Ankara, Turkey
Bachelor of Science (B.S.), Computer Science, May, 2000

EXPERIENCE

2010 – 2011   Koç University   Istanbul, Turkey
Research Assistant

- Sparse Regression-based Machine Translation
- Instance Selection Techniques for Machine Translation

Teaching Assistant

- Parallel Programming (Graduate and Undergraduate Level)
- Algorithms and Data Structures

2009 – 2010   Koç University   Istanbul, Turkey
Research Assistant

- Regression-based Machine Translation
- Sparse Learning Methods and Optimization

Teaching Assistant

- Structure and Interpretation of Programs with LISP
- Algorithms and Data Structures

2008 – 2009   Koç University   Istanbul, Turkey
Research Assistant

- Regression-based Machine Translation
- Machine Translation Techniques for the English-Turkish Pair

Teaching Assistant

- Structure and Interpretation of Programs with LISP
- Algorithms and Data Structures

2007 – 2008   Koç University   Istanbul, Turkey
Research Assistant

- Learning to Align Sentences in Parallel Corpora
- Computational Techniques for Machine Translation
- Hybrid Machine Translation Systems
- Machine Translation Techniques for the English-Turkish Pair

Teaching Assistant

- Structure and Interpretation of Programs with LISP
- Introduction to Engineering

Summer 2007   Xerox Research Centre Europe   Grenoble, France
Research Intern

- Hybrid Machine Translation Systems
- Matrax Phrase-Based Machine Translation System

2006 – 2007   Koç University   Istanbul, Turkey
Research Assistant

- Learning to Align Sentences in Parallel Corpora
- Inductive Learning of Sentence Splitting Rules
- Context-based Approaches to Sentence Alignment
- Machine Translation Techniques for the English-Turkish Pair

Teaching Assistant

- Structure and Interpretation of Programs with LISP (2 semesters)

2005 – 2006   Koç University   Istanbul, Turkey
Research Assistant

- Density based clustering of high dimensional data
- Question answering by word similarity judgments
- Formal Concept Analysis for learning concept hierarchies from text

Teaching Assistant

- Structure and Interpretation of Programs with LISP
- Introduction to Computer Programming with Java

2004 – 2005   North Carolina State University   Raleigh, NC
Research Assistant

- Consensus Ontology Generation in Socially Interacting MultiAgent

Systems.
- Formal Consensus Ontologies

Teaching Assistant

- Database Management Systems.

2003 – 2004   North Carolina State University   Raleigh, NC

Industrial Consultant at Glaxo Smith Kline

- Relational learning from drug adverse events reports.
- Machine learning from medical data pertaining to drugs.
- Using Inductive Logic Programming with medical ontologies.

Research Assistant

- Semantic matching of concepts from different ontologies, OWL, Semantic Web
- Formal methods for learning and induction

2002 – 2003   North Carolina State University   Raleigh, NC

Industrial Consultant at Glaxo Smith Kline

- Knowledge representation and reasoning issues in extracting and using information from medical text databases
- The use of ontologies in data mining and expert systems

Research Assistant

- Commonsense reasoning and its use in user interfaces
- Recognition of the functionality of tools in physical environments for reasoning about tool use and adding functional intelligence/reasoning to a robotic arm

2001 – 2002   North Carolina State University   Raleigh, NC

Research Assistant

- Researching topics related to Human Computer Interaction, User Interface Design, Robotics, and Commonsense Reasoning.
- Designing and implementing programs for achieving this goal

2000 – 2001   North Carolina State University   Raleigh, NC

Teaching Assistant

- Artificial Intelligence course
- Graduate level Artificial Intelligence course

Summer 1999   IBM   Istanbul, Turkey

Information Systems Trainee

- Implemented & tested IBM's Internal Documentation Application – ECFORMS, a Lotus Notes application
- Implemented an on-line library application in Notes environment

Summer 1998   Arçelik   Istanbul, Turkey

Information Systems Trainee

- Worked on Arçelik's Intranet with INTERDEV
- Implemented a database application using MS Access

RESEARCH INTERESTS

■ **Machine Translation**

Language Modeling, Computational Linguistics, Natural Language Processing.

■ **Machine Learning**

Regression, Clustering, Instance-Based Learning, Inductive Logic Programming.

■ **Semantic Understanding**

Semantic Information Processing, Consensus Ontologies, Text Understanding, Question Answering, Formal Context.

■ **Artificial Intelligence**

Commonsense Reasoning, Knowledge Representation, Medical Informatics, Semantic Web.

PUBLICATIONS

2011, Ergun Bicici, "*The Regression Model of Machine Translation*", Thesis.

2011, Ergun Bicici and Deniz Yuret, "*Sparse Regression for Machine Translation*", *(in preparation)*.

2011, Ergun Bicici and Deniz Yuret, "*Instance Selection for Machine Translation using Feature Decay Algorithms*", Proceedings of the EMNLP 2011 Sixth Workshop on Statistical Machine Translation (WMT'11).

2011, Ergun Bicici and Deniz Yuret, "*RegMT System for Machine Translation, System Combination, and Evaluation*", Proceedings of the EMNLP 2011 Sixth Workshop on Statistical Machine Translation (WMT'11).

2010, Ergun Bicici and Deniz Yuret, "*L1 Regularized Regression for Reranking and System Combination in Machine Translation*", Proceedings of the ACL 2010 Joint Fifth Workshop on Statistical Machine Translation and Metrics MATR (WMT'10).

2010, Ergun Bicici and S. Serdar Kozat, "*Adaptive Model Weighting and Transductive Regression for Predicting Best System Combinations*", Proceedings of the ACL 2010 Joint Fifth Workshop on Statistical Machine Translation and Metrics MATR (WMT'10).

2010, Ergun Bicici and Deniz Yuret, "*L1 Regularization for Learning Word Alignments in Sparse Feature Matrices*", Proceedings of the Computer Science Student Workshop (CSW'10).

2009, Deniz Yuret and Ergun Bicici, "*Modeling Morphologically Rich Languages Using Split Words and Unstructured Dependencies*", Proceedings of the Association for Computational Linguistics *Conference* (ACL 2009).

2008, Ergun Bicici, "*Consensus Ontologies in Socially Interacting MultiAgent Systems*", Multiagent and Grid Systems – An International Journal, MAGS.

2008, Ergun Bicici, "*Context-Based Sentence Alignment in Parallel Corpora*". 9th International Conference on Intelligent Text Processing and Computational Linguistics (CICLING 2008), LNCS, Haifa, Israel, February 2008.

2008, Ergun Bicici and Marc Dymetman, "*Dynamic Translation Memory: Using Statistical Machine Translation to improve Translation Memory Fuzzy Matches*".

9th International Conference on Intelligent Text Processing and Computational Linguistics (CICLING 2008), LNCS, Haifa, Israel, February 2008.

2007, Ergun Bicici, "*Local Context Selection for Aligning Sentences in Parallel Corpora*"*,* 6th International and Interdisciplinary Conference on Modeling and Using Context (CONTEXT 2007), LNAI, volume 4635, Roskilde, Denmark, pages 82-93, August 2007.

2007, Ergun Bicici and Deniz Yuret, "*Locally Scaled Density Based Clustering*", 8th International Conference on Adaptive and Natural Learning Algorithms, ICANNGA 2007, Lecture Notes in Computer Science, LNCS.

2006, Ergun Bicici, "*Consensus Ontology Generation in a Socially Interacting MultiAgent System*", 30th Annual International Computer Software and Applications Conference (COMPSAC'06), 2006.

2006, Ergun Bicici and Deniz Yuret, "*Clustering Word Pairs to Answer Analogy Questions*", Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN 2006).

2006, Ergun M. Bicici, "*Generating Consensus Ontologies among Socially Interacting Agents*", International Workshop Agents and Multiagent Systems, from Theory to Application, AMTA 2006, Quebec, Canada.

2005, Ergun M. Bicici, "*Formal Consensus*", Technical Note.

2005, Ergun M. Bicici, "*Generating Consensus Ontologies among Socially Interacting Agents*", Technical Note.

2004, Ergun M. Bicici, "*Relational Learning from Drug Adverse Events Reports*", North Carolina Symposium on Biotechnology & Bioinformatics, IEEE Tech4Life.

2003, Ergun M. Bicici and Robert St. Amant, "*Reasoning About the Functionality of Tools and Physical Artifacts*", NCSU Technical Report TR-2003-22.

2003, Sameer Rajyaguru and Mehmet Ergun Bicici and Robert St. Amant. "*Intelligent User Interface Tools*", (*unpublished*).

2002, Ergun M. Bicici, "*Prolegomenon to Commonsense Reasoning in User Interfaces*" in ACM Crossroads, Human Computer Interaction (9.1).

2000, Ergun M. Bicici and Baris Arslan, "*Corpus Annotation Tool for Turkish Language*", Senior Project under the supervision of Kemal Oflazer.

PATENTS **2010**, DYNAMIC TRANSLATION MEMORY USING STATISTICAL MACHINE TRANSLATION, US PATENT, Inventor(s): Ergun Bicici; Marc Dymetman

SKILLS, HONORS, & PERSONAL

Software Development
- Extensive experience with computer languages,
  - Python, C/C++, Java, LISP, Perl, SQL
- Software packages
  - Weka, Matlab, mySQL

Favorite Topics
- *Machine Learning & Knowledge Discovery*
  - Computational Linguistics, Natural Language Processing, Inductive Logic Programming, Text Mining
  - Machine Learning Summer School 2008 (MLSS'08)
- *Artificial Intelligence*
  - Pattern Recognition, Social Networks, Bioinformatics, Computer Vision
- *Theory*
  - Algorithms, Estimation Theory, Advanced Digital Signal Processing, Graph Theory

Languages
- Turkish (native), English (advanced), German (basic)

Personal
- Member of Association for Computational Linguistics
- Creative thinking, quick understanding
- Enjoy sailing, surfing, basketball, swimming, cycling, hiking, skiing, traveling, drawing

Honors
- Awarded TUBITAK PhD Scholarship (2006 - 2010).
- Received full financial support for PhD at Koç University.
- Received financial support from GSK for the year 2004.
- Received financial support from GSK for the year 2003.
- Accepted to NCSU with full scholarship, February 2000.
- GRE (Q, A, V): (800, 780, 410)
- Stood 16th (Dec, 1999) and 700th (Dec, 2005) among 150,000 applicants taking the annual Nationwide Graduation Exam (LES).
- Selected to AIESEC International Internship program, 1999.
- Accepted to Bilkent University with Full Scholarship, 1996-00.
- Stood 208th among 1.5 million applicants taking the Nationwide University Entrance Exam, May 1996.
- Stood 116th in Science High School entrance exam, May 1993.