

# ERGUN M. BİÇİCİ

## CURRICULUM VITAE

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING, KOC UNIVERSITY  
ENGINEERING BUILDING 228, RUMELIFENERI YOLU, SARIYER, ISTANBUL, TURKEY, 34450

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## OBJECTIVE

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Developing and researching new and novel solutions to the computing problems of the technology age.

## EDUCATION

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- 2005 –** Koç University Istanbul, Turkey  
PhD Candidate, Electrical and Computer Engineering  
**Concentration:** machine translation, knowledge discovery, artificial intelligence, computational linguistics
- 2000 – 2005** North Carolina State University Raleigh, NC  
PhD Candidate, 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  
B.S. Computer Science, May, 2000

## EXPERIENCE

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- 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
- 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

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### ■ Machine Translation

Language Modeling, Computational Linguistics, Natural Language Processing.

### ■ Knowledge Discovery

Support Vector Machines, Inductive Logic Programming, Clustering, Instance-Based Learning, Formal Concept Analysis, Text Mining.

### ■ Semantic Understanding

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

### ■ Artificial Intelligence

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

## PUBLICATIONS

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**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*”. 9<sup>th</sup> 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*”. 9<sup>th</sup> 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*”, 6<sup>th</sup> 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*”, 8<sup>th</sup> 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*”, 30<sup>th</sup> 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.

## SKILLS, HONORS, & PERSONAL

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|-----------------------------|---|
| <b>Software Development</b> | <ul style="list-style-type: none"><li>■ Extensive experience with computer languages,<ul style="list-style-type: none"><li>▪ Python, C/C++, Java, LISP, Perl, SQL, OWL</li></ul></li><li>■ Software packages<ul style="list-style-type: none"><li>▪ Matlab, Weka, SAS Enterprise Miner, mySQL</li></ul></li></ul>   |
| <b>Favorite Topics</b>      | <ul style="list-style-type: none"><li>■ <i>Knowledge Discovery &amp; Machine Learning</i><ul style="list-style-type: none"><li>▪ Computational Linguistics, Natural language processing, Inductive Logic Programming, Text Mining</li></ul></li><li>■ <i>Artificial Intelligence</i><ul style="list-style-type: none"><li>▪ Description Logics, Social Networks, Bioinformatics, Computer Vision, Pattern Recognition, E-Commerce</li></ul></li><li>■ <i>Theory</i><ul style="list-style-type: none"><li>▪ Estimation Theory, Advanced Digital Signal Processing, Algorithms, Graph Theory, Information Theory, Automata Theory and Languages</li></ul></li></ul> |
| <b>Languages</b>            | <ul style="list-style-type: none"><li>▪ Turkish (native), English (advanced), German (basic)</li></ul>  |
| <b>Personal</b>             | <ul style="list-style-type: none"><li>▪ Member of IEEE Computer Society</li><li>▪ Member of American Association for Artificial Intelligence</li><li>▪ Member of Young Guru Academy</li><li>▪ Creative thinking, quick understanding</li></ul>  |

- Enjoy sailing, surfing, basketball, swimming, cycling, hiking, skiing, traveling, drawing

## **Honors**

- Awarded TUBITAK PhD Scholarship (2006 - ).
- 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 16<sup>th</sup> (Dec, 1999) and 700<sup>th</sup> (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 208<sup>th</sup> among 1.5 million applicants taking the Nationwide University Entrance Exam, May 1996.
- Stood 116<sup>th</sup> in Science High School entrance exam, May 1993.