

# PETER PESTI



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## RESEARCH INTERESTS

Distributed Systems, Mobile Systems, Internet Computing, Maps, Middleware Systems, Cloud Computing, Location Based Systems

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## EDUCATION

- 2006–2012 **PhD in Computer Science**, Georgia Institute of Technology, Atlanta, GA  
Area: location based systems, mobile computing  
GPA: 4.00/4.00
- 2004–2006 **MS in Computer Science**, Georgia Institute of Technology, Atlanta, GA  
Area: computer vision; human-computer interaction  
GPA: 3.66/4.00
- 2000–2006 **MSc in Technical Informatics**, Budapest Univ. of Technology, Hungary  
Area: speech synthesis; software technologies  
GPA: 4.54/5.00
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## IMPACTFUL PROJECTS

- “Google Maps Nighttime!?”: mashup webpage (1M+ unique visitors), 2006  
<http://www.cc.gatech.edu/~pesti/night/>
  - “mGraffiti”: satellite and map imagery based community interaction software for Windows Mobile powered PDAs. US national finalist and regional 1<sup>st</sup> prize winner at Microsoft Imagine Cup software design competition, Redmond, WA, 2005  
<http://www.cc.gatech.edu/~pesti/mgraffiti/>
  - Corpus-based speech synthesis engine in C++ for Hungarian. Received thesis award of the Hungarian Scientific Association for Infocommunications (2006). Presented at the Student Researchers’ Conference: 1<sup>st</sup> place award by John von Neumann Computer Society (2004). Published results in a journal and at a conference.
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## HONORS, AWARDS

- MSc diploma with distinction, Budapest, Hungary, 2006
  - Invited to highly selective McKinsey & Company EuroAcademy, Athens, Greece, 2005
  - Full scholarship from Naumann-Etienne Foundation, for studies at Georgia Tech, 2004
  - Scholarship of the Hungarian Republic (top 0.8% of all university students), 2003–2005
  - Scholarship from the GE Foundation’s Scholar-Leaders Program, 2002–2005
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## WORK EXPERIENCE

- Software Engineer**, Google, Seattle, WA  
Ground Truth team, *October 2012 – Present*  
Working on Ground Truth project for Google Maps data.  
<http://www.theatlantic.com/technology/archive/12/09/how-google-builds-its-maps-and-what-it-means-for-the-future-of-well-everything/261913/>
- Software Engineering Intern**, Google, Seattle, WA  
Ground Truth team, *Summer of 2011*  
Created and coded algorithms in C++ for automatically detecting special road segments.
- Software Engineering Intern**, Google, Seattle, WA  
RoadTraffic team, *Summer of 2010*  
Coded a 5-stage MapReduce pipeline in C++ for large scale data transformation.
- Software Engineering Intern**, Google, Kirkland, WA  
XFA/AdX Reservations Marketplace team, *Summer of 2009*  
Wrote production and experimental algorithms in Java and C++ for ad search & ranking.

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**WORK  
EXPERIENCE  
(cont'd)**

**Research Intern**, Microsoft, Redmond, WA  
Microsoft Research, Systems and Networking Group, *Summer of 2007 and Summer of 2008*  
Created and coded new algorithm in C++ and C# for MapCruncher/Stitcher project.

**Graduate Research Assistant**, College of Computing, Georgia Institute of Technology  
Center for Experimental Research in Computer Science, *08/2006 – 05/2012*  
Projects: Distributed Location-Aware Computing Systems, with Prof. Ling Liu.  
Worked on GT MobiSim, RoadTrack and FastExpand projects.

**Graduate Teaching Assistant**, College of Computing, Georgia Institute of Technology  
CS8803: Advanced Internet Application Development, *01/2008 – 05/2008*

**Teaching Assistant**, Budapest University of Technology and Economics  
Software Project Lab, *Spring of 2003, 2004 and 2006*

**Research Assistant**, Budapest University of Technology and Economics  
Speech Technology Laboratory, *September 2003 – July 2004, September 2005 – May 2006*  
Team project: Design, implementation and testing of speech synthesis software system.

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**TECHNICAL  
SKILLS**

- *Programming*: Java, C, C++, C#, Matlab, Prolog
- *Software development*: Eclipse, Visual Studio, UML, OO design, Perforce
- *Web technologies*: XML, HTML, PHP, JavaScript, Apache/Tomcat servers, socket programming, SOAP web services in C# and Java, RPC
- *Databases*: SQL, MySQL, MS SQL, H2, JDBC, MapReduce
- *Operating systems*: Linux, Windows, Windows Server, Windows Mobile

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**PUBLICATIONS**

- P. Pesti, L. Liu, “Dandelion: Algorithms for Efficient Continuous Range Query Evaluation in Road Networks”, (*under preparation*), 2013.
- M. Weber, L. Liu, K. Jones, M. Covington, L. Nachman, P. Pesti, “On Map Matching of Wireless Positioning Data: A Selective Lookahead Approach”, *18th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM GIS 2010)*, San Jose, CA, 2010.
- P. Pesti, L. Liu, B. Bamba, A. Iyengar, M. Weber: “RoadTrack: Scaling Location Updates for Mobile Clients on Road Networks with Query Awareness”, *36th International Conference on Very Large Data Bases (VLDB 2010)*, Singapore, 2010.
- E. Martin, L. Liu, M. Weber, P. Pesti, M. Woodward, “Unified analytical models for location management costs and optimum design of location areas”, *5th International Conference on Collaborative Computing (CollaborateCom 2009)*, Washington D.C., 2009
- L. Liu, B. Bamba, M. Doo, P. Pesti, M. Weber, “mTrigger: An Event-based Framework for Location-based Mobile Triggers”, To appear in the *Handbook of Research on Advanced Distributed Event-Based Systems, Publish/Subscribe and Message Filtering Technologies*, Edited by Annika Hinze and Alejandro Buchmann, IGI Global, 2009
- P. Pesti, J. Elson, J. Howell, D. Steedly, M. Uyttendaele, “Low-Cost Orthographic Imagery”, *16th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems*, Irvine, CA, 2008

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- PUBLICATIONS (cont'd)**
- B. Bamba, L. Liu, P. Pesti, T. Wang, “Supporting Anonymous Location Queries in Mobile Environments with PrivacyGrid”, *17th International World Wide Web Conference*, Beijing, China, 2008
  - M. Fék, P. Pesti, G. Németh, G. Olaszy, Cs. Zainkó, “Corpus-Based Unit Selection TTS for Hungarian”, *Ninth International Conference on Text, Speech and Dialogue*, Brno, Czech Republic, 2006
  - M. Fék, P. Pesti, G. Németh, Cs. Zainkó, “Generation Change in Speech Synthesis” (in Hungarian), *Hungarian Journal on Communications*, vol. 2006/3, pp. 21-30, Budapest, Hungary, 2006
  - T. Westeyn, P. Pesti, K. Park, T. Starner, “Biometric Identification Using Song-Based Blink Patterns”, *11th International Conference on Human-Computer Interaction*, Las Vegas, NV, 2005
  - A. Nagy, P. Pesti, G. Németh, T. Bóhm, “Design Issues of a Corpus-Based Speech Synthesizer”, *Hungarian Journal on Communications*, 2005/6. special issue, pp. 18-24, Budapest, Hungary, 2005

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- ACTIVITIES**
- External reviewer for WWW’08, ICDE’11, MDM’11.
  - Participated in professional one-week course (on university scholarship), Ecole Nationale Supérieure d’Arts et Métiers, Paris, France, *November 2005*
  - Initiated and coordinated offering innovative Computational Neuroscience course (Prof. Peter Érdi), *December 2003*
  - Participated in professional one-week course (on university scholarship), Ecole Nationale Supérieure des Télécommunications, Paris, France, *November 2003*
  - Participated in professional one-week course (on university scholarship), Ecole Polytechnique, Paris, France, *March 2003*

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- OTHER**
- Languages spoken: English (fluent), French (intermediate), Hungarian (native)
  - Invited member of Lifeboat Foundation’s “Futurists” Scientific Advisory Board
  - Interests, hobbies: value investing, photography, traveling