2nd International Workshop on Computational Transportation Science 2009

Call for Papers
2nd International Workshop on Computational Transportation Science

November 3, 2009, Seattle, WA, USA
http://iwcts09.cs.umn.edu

In the near future, vehicles, travelers, and the infrastructure will collectively have billions of sensors that can communicate with each other. This environment will enable numerous novel applications and order of magnitude improvement in the performance of existing applications. However, information technology (IT) has not had the dramatic impact on day-to-day transportation that it has had on other domains such as business and science. In terms of the real-time information available to most travelers, with the exception of car navigation systems, the transportation experience has not changed much in the last 30-40 years. During this same time, the miniaturization of computing devices and advances in wireless communication and sensor technology have been propagating computing from the stationary desktop to the mobile outdoors, and making it ubiquitous. Transportation systems, due to their distributed/mobile nature, can become the ultimate test-bed for this ubiquitous (i.e., embedded, highly-distributed, and sensor-laden) computing environment of unprecedented scale. Information technology is the foundation for implementing new strategies, particularly if they are to be made available in real-time to wireless devices such as cell phones and PDAs. A related development is the emergence of increasingly more sophisticated geospatial and spatio-temporal information management capabilities. These factors have the potential to revolutionize traveler services, and the provision and analysis of related information. In this revolution, travelers and sensors in the infrastructure and in vehicles will all produce a vast amount of data that could be interpreted and acted upon to produce a sea change in transportation.

The emerging discipline of computational transportation science (CTS) combines computer science and engineering with the modeling, planning, and economic aspects of transportation. The discipline goes beyond vehicular technology, and addresses pedestrian systems on hand-held devices, non-real-time issues such as data mining, as well as data management issues above the networking layer. CTS applications will improve efficiency, equity, mobility, accessibility, and safety by taking advantage of ubiquitous computing.

SCOPE OF THE SUBMISSION

The International Workshop on Computational Transportation Science invites submissions of original, previously unpublished papers on CTS issues. Position papers that report novel research directions or identify challenging problems are invited from industry as well as academia. Papers incorporating one or more of the following themes are especially encouraged:

- Uncertain information distributed among moving travellers/vehicles and the infrastructure
- Information in pedestrian, biking, and other non-motorized transportation applications
- Ride- and car-sharing using social networks
- Computation of costs of multi-modal travelling
- Information regarding transfers to alternate modes of transportation
- Data mining techniques for travel information
- Dynamic shortest path computations using forecasts
- Human-computer interfaces in intelligent transportation applications
- Privacy and security issues in transportation information
- Social and institutional information related to travel
- Real-time negotiation among travellers

- Mobile artificial-intelligence aspects related to transportation
- Sensor information related to transportation
- Wireless communication with travelers and vehicles

Submission Instructions

Authors should prepare an Adobe Acrobat PDF version of their full paper. Papers must be in English and not exceed 6 pages double column in ACM SIG format (US Letter size, 8.5 x 11 inches) including text, figures and references. Position papers are limited 4 pages. Each submission should start with: the title, abstract, and names, contact information of authors, type of the submission (research paper or position paper). Authors are asked to register the titles and abstract of their papers in advance. To register or submit a paper, please visit https://cmt.research.microsoft.com/IWCTS09/ or see the workshop website for more details. Accepted papers will be published in the conference proceedings and the ACM digital library. Authors of accepted papers must guarantee that their paper will be presented at the workshop.

Important Dates:

Paper submissions due:	**July 31, 2009**
Notification to the authors:	**September 14, 2009**
Camera ready papers due:	**September 28, 2009**
ACM GIS 2009 Conference:	**November 4-6, 2009**
IWCTS Workshop:	**November 3, 2009**

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