LANGUAGE THEORY WITH APPLICATIONS 2011

LTA 2011

Place & Date:

FIT BUT, Brno, Czech Republic, December 13-15, 2011

Coverage:

LTA 2011 offers a variety of scientific talks on formal language theory and its computer-related applications at MSc and PhD levels. A special attention is paid to modern applications related to the language translation. Most of the talks results from the students' work in the TID and VYPe classes taught at FIT BUT.

Audience:

Everybody is welcome to attend this event without any prior notice or payment.

Organizers:

(1) The TID and VYPe teaching teams, FIT BUT
(2) Formal Model Research Group, FIT BUT
(3) Department of Information Systems, FIT BUT

Committee:

- Alexander Meduna (chair)
- Zbyněk Křivka
- Jiří Koutný
- Martin Čermák

Website:

`http://www.fit.vutbr.cz/~meduna/work/lta`

Schedule

Tuesday, December 13, 2011, 10 Am - 13 Pm, Room A112, Chair: Jiří Koutný

10:00 – 10:20 Houšť Marek: DEVS formalism for modeling and analysis of discrete systems
10:20 – 10:40 Kouřil Jan: Incremental construction of minimal finite automata and its utilization in natural language processing
10:40 – 11:00 Král Jiří: Using Alternating-Time Logic for modeling of artificial agents in wireless nets
11:00 – 11:20 Kraus Zdeněk: Cryptographic API grammar
11:20 – 11:40 Luža Radim: Processing and analysis of robotic arm control language
11:40 – 12:00 Martinek David: Grammars for problems solved by dynamic software systems
12:00 – 12:20 Matoušek Jiří: On complexity of offline partial dynamic reconfiguration Scheduling
12:20 – 12:40 Milička Martin: Tree edit distance in a document comparison
12:40 – 13:00 Minarovský Peter: A testing theory for real-time systems

Wednesday, December 14, 2011, 11 am - 14 pm, Room A112, Chair: Martin Čermák

11:00 – 11:20 Bartoš Václav: Using support vector machines to classify multidimensional data
11:20 – 11:40 Volf Tomáš: Representing and quering moving objects
11:40 – 12:00 Petrlík Jiří: Multiobjective grammatically-based genetic programming
12:00 – 12:20 Sopuch Zbyněk: Parallel parsing based upon general multigenerative grammar systems
12:20 – 12:40 Šikulová Michaela: Language theory with application: Cartesian genetic programming
12:40 – 13:00 Šimková Marcela: Assertion-based verification
13:00 – 13:20 Škoda Petr: Problems of CAP theorem proof and connection to PACELC taxonomy
13:20 – 13:40 Malčík Dominik: Model of a semiautomatic detection system
13:40 – 14:00 Vopěnka Václav: Automatic polynomial transformation of differential equations and derivation closure

Thursday, December 15, 2011, 9 am - 13 pm, Room E105, Chair: Zbyněk Křivka

09:00 – 09:40 Hanák František, Kletzander Martin: LL(k) parsing I.
Lang Jozef, Bc., Zemko Zoltán: LL(k) parsing II.
Raiskup Pavel, Schiffer Peter: LR table construction.
Kučera Jiří, Raška Jiří: ANTLR: Parser generator
09:40 – 10:20 Dlouhý Ivo, Preuss Jan: Lexical and syntactical structures in programming language Lua
Beneš Vojtěch, Horčička Jakub: Lexical and syntactical structures in programming language Miranda
Zajíc Jiří, Žouželka Martin: Lexical and syntactical structures in programming language Caml
Hübner Lukáš, Vraštiak Pavel: Lexical and syntactical structures in programming language Ocaml
10:20 – 11:20 Matička Jiří, Minář Michal: Code generation: intermediate languages
Fraile Villalba Daniel: Symbol table
Bučko Peter, Gajdušek Radek: Code generation: Symbol table
Basovník Martin, Mareček Jakub: Optimization strategies
Pataky Štefan: Region-based analysis
Polách Ondřej, Soukup Ondřej: The effect of unrolling and inlining for python bytecode optimizations
11:20 – 12:00 Divácký Roman, Utěkal Jan: Basic block scheduling & global code scheduling
Görig Jan, Ocelík Tomáš: Basic block scheduling & global code scheduling
Lutonský Martin, Odstrčilík Martin: Software pipelining
Ondrušek Libor, Pech David: Software pipelining
12:00 – 13:00 Moltaš Jaroslav, Podhorský Jiří: Interprocedural Analysis: Basic concepts I
Tisoň Zdeněk, Wollný Pavel: Interprocedural Analysis: Basic concepts II
Randa Jakub, Šišák Ivan: Logical representation of data flow & simple pointer-analysis algorithm I
Sekletár Michal, Šoltés Miroslav: Logical representation of data flow & simple pointer-analysis algorithm II
Dušek David, Pohlídal Antonín: Context-insensitive interprocedural analysis & context-sensitive pointer analysis I
Hamada Ondřej, Hložánka Marek: Context-insensitive interprocedural analysis & context-sensitive pointer analysis II