

Drage bralke in bralci!

Pred vami so povzetki druge Minikonference iz teoretičnega računalništva. Minikonferenca je letos prvič del multikonference Informacijska družba, a bo v prihodnje brez dvoma njen reden član. Slednje pomeni velik doprinos tako za področje teoretičnega računalništva, ki se pojavlja v širši družbi, kot tudi celotni stroki računalništva in informatike, ki ga pokriva multikonferenca, saj ji daje tudi tisto temeljno podstat, ki jo včasih pogrešamo.

Minikonferenca se odvija na Univerzi na Primorskem že drugo leto. Njen namen je vzpostaviti okolje za srečevanje med najboljšimi podiplomskimi študenti in strokovnjaki s področja teoretičnega računalništva. Temu sledi tudi struktura minikonference, ki je dvodnevna. Prvi dan so na sporedu študentski članki in drugi dan znanstveni članki. Študentski članki so letos razdeljeni na 3 sekcije, v katerih je predstavljenih 9 prispevkov s področja podatkovnih struktur in 2 sekciji s sedmimi članki s področja teoretičnih osnov računalništva.

Letos bo na konferenci predstavljenih 8 znanstvenih člankov. Kar je posebno vzpodbudno je to, da članki posegajo na področje uporabnega teoretičnega računalništva. Članki, ki jih predstavljajo József Békési, David Paš in Atilla Tóth sodijo na področje razporejanja. Vsi njihovi prispevki so motivirani z realnimi problemi, za katere predlagajo model reševanja in tudi hevristične rešitve.

Problem, ki ga predstavlja Carlos Kavka, je s področja načrtovanja vezij, ki prav tako sodi med NP-polne probleme. V svojem prispevku Carlos predstavlja rešitev z uporabo orodja modeFRONTIER. Tudi problem polnjenja košev, ki ga opisuje Gábor Galambos v svojem vabljenem predavanju, je v osnovi NP-poln. Različica sprotnega algoritma je še toliko bolj zanimiva ter dovoljuje zgolj približno rešitev. V članku se bomo sprehodili skozi nekaj spodnjih mej možnih približkov.

Miklós Krész se v svojem prispevku loteva problema učinkovite redukcije grafa ter pokaže, da je možna samo ob določenih pogojih. Posebnost sta članka Gregorja Smogavca in Janeza Žiberta. Oba se ukvarjata z obdelova velikih količin podatkov. Podatki Gregorja Smogavca so geografski oziroma geometrijski, medtem ko so pri Janezu Žibertu zvočni. Pri Gregorju Smogavcu imamo opravka z geometrijskim približkom terena, po katerem se mora gibati avtonomen robot. Dobra stran rešitve je v tem, da je zaradi približnostnega pristopa hitra in omogoča procesiranje v stvarnem času. Prispevek Janeza Žiberta sodi na področje razpoznavne govorcev v zvočnem toku.

Naj vam še enkrat v imenu programskega in organizacijskega odbora izrazimo dobrodošlico ter povabimo, da nas obiščete tudi drugo leto!

Andrej Brodnik, David Paš

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Dear readers,

here are the abstracts of the second Miniconference on theoretical Computer Science. The Miniconference is for the first time part of a multiconference Information Society, but we believe it will become its regular member. This means a twofold advantage: first for the Theoretical Computer Science itself for its appearance in a general society, and second for the whole Computer Science and a multiconference which got a firm theoretical basis that is sometimes missed.

The Miniconference is taking place at the University of Primorska for the second year. Its purpose is to establish an environment for meeting the best graduate students and professionals in the area of the theoretical Computer Science. Therefore the conference consists of student sessions (the first

day) and regular sessions (the second day). Three student sessions with 9 papers cover the area of data structures and 2 sections with 7 papers cover the area theoretical basis of Computer Science.

This year we have at the conference 8 regular papers and we are especially happy to notice that all of them are from the area of applied theoretical Computer Science. Papers presented by József Békési, David Paš and Atilla Tóth address scheduling problems. They describe models and hevristical solutions for various real world problems.

Carlos Kavka in his paper addresses the problem of chip design. This is also NP-hard problem and Carlos in his contribution presents a solution obtained using tool modeFRONTIER. Further, bin packing problem addressed by Gábor Galambos in his invited lecture is in its basis also NP-hard. The variant he studies is an on-line version of the problem and he presents some lower bounds on the approximate solutions.

An efficient graph reduction method is a topic studied by Miklós Krész. He shows that the efficient graph reduction is possible only under some specific conditions. The papers presented by Gregor Smogavec and Janez Žibert are different from other papers as the emphasis in their papers is on the amount of data they deal with. The data processed by Gregor are geographic or geometric while Janez processes sound. Gregor Smogavec deals with a terrain approximation through which a robot has to move. His solution is slightly inaccurate though fast which permits processing in real-time. Janez in his paper studies the problem of speaker recognition in continuous audio streams and presents several methods and approaches to solve it.

At last but not least we want to express once more our welcome to you and invite you to join us the next year again!

Andrej Brodnik, Davi Paš

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Andrej Brodnik (predsednik/chair), Miklós Krész, József Békési, Janez Žibert

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