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Christian Bessiere

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Preface

IJCAI-PRICAI-20 is a conference we will long remember as one that involved many firsts. This year was the first time that IJCAI and the Pacific Rim International Conference on Artificial Intelligence have been held jointly. This was the first time that an IJCAI conference has been held in a year other than its name: IJCAI-PRICAI-20 was in fact held on January 7-15, 2021. And of course, this was the first virtual IJCAI. In March 2020, the conference committee realized that the COVID-19 pandemic might well affect travel plans and that we would need to prepare for several contingencies. It quickly became apparent that we would not be able to hold IJCAI in July 2020 as originally scheduled—and as we monitored the evolving pandemic, it gradually became clear that it would not be possible to hold an in-person conference at all. With a tremendous "second shift" of planning by the conference committee and all of the track chairs, and in cooperation with VirtualChair, we were able to design and launch a fully online, immersive conference experience.

AI has burgeoned in recent years, and the pace of development of AI-related technologies has only accelerated in response to the pandemic, with entire industries rapidly moving to a virtual work environment. Alongside the growth of AI technology has come a growing interest in AI ethics and social impact, with an increased recognition that AI has the capacity to change the human trajectory for good, but also the capacity to reinforce and increase existing inequities. IJCAI-PRICAI-20 follows a long tradition of deep attention to both technology and ethical issues, incorporating a topical track on, special tracks on *AI in FinTech (Financial Technology) and Computational Sustainability and Human Well-Being*, panels on *Women in AI* and *Diversity in AI*, and a special roundtable on *AI Futures: Report from the One Hundred Year Study on Artificial Intelligence (AI100)*.

IJCAI-PRICAI-20 received a record number of 5,680 submitted papers (an 20% increase over IJCAI-19, itself a record breaker), of which 704 submissions were accepted (12.4%). The initial screening phase identified 343 papers for desk rejection due to violations of the submission requirements. To manage the increasing load of reviewing, this year we introduced a summary reject phase in the main track, in which 2,191 of the remaining 4,804 main-track papers (46%) were rejected using an accelerated review process. Almost all of the remaining 2,613 papers received four reviews. The special track on *Sustainability and Human Well-being* and the special track on *AI for FinTech* received 96 and 188 papers, respectively, of which 19 and 35 were accepted (respectively). In the virtual format, all papers included a recorded oral presentation, a live Q&A session, and a virtual poster presentation. The Program Committee consisted of 5 associate program chairs, 92 area chairs, 925 senior program committee members, 4,130 program committee members, and 83 external reviewers, for a total of 5,235 researchers who performed careful and rigorous reviews, discussed the papers, and made final recommendations. In the full review phase, authors had the opportunity to provide feedback to their reviews, which was then analyzed by the reviewing team at the time of discussion.

The journal track includes 29 abridged versions of papers that have been published in AIJ and JAIR without having ever been presented at a major conference. The sister conference best paper track includes 21 revised versions of award-winning papers from some of the top-level specialized AI conferences. 14 early career spotlight talks were given by outstanding researchers who are 5 to 10 years past their doctorate. The survey track provides an opportunity for AI researchers who are experts on a specific topic to give a talk presenting a synthesis survey of the topic and to publish a paper in the proceedings. We received 111 submissions for this track, of which 28 were accepted. Finally, the demo track received 138 short papers describing demos, of which 31 were accepted.

IJCAI-PRICAI-20 included eight outstanding invited speakers: Elisabeth André (Universität Augsburg, Germany), Craig Boutilier (Google Research, USA), Hiroshi Ishiguro (Osaka University and ATR Hiroshi Ishiguro Laboratories, Japan), Mykel Kochenderfer (Stanford University, USA), Stéphane Mallat (Collège de France, France), Yukie Nagai (University of Tokyo, Japan), Peter Stone (University of Texas at Austin and Sony AI, USA), and Tinne Tuytelaars (KU Leuven, Belgium). We also offered talks by the winners of three prestigious awards: the 2020 IJCAI Award for Research Excellence (Eugene Freuder), the 2020 John McCarthy Award (Daniela Rus), and the 2020 Computers and Thought Award (Piotr Skowron). At the conference, Toby Walsh received the 2020 Donald E. Walker Distinguished Service Award.

A conference the size and scope of IJCAI-PRICAI-20 requires tremendous effort from many people, including a second round of planning this year to reschedule and retool the conference for a virtual format. We are immensely grateful to everyone who contributed to this massive undertaking. First of all, the authors, whose outstanding and innovative work forms the heart of the conference. Second, the program committee members, who volunteered their time and energy in service to the research community. Third, the chairs of all the tracks, Felip Manyà and Nina Narodytska (workshops), Emmanuel Hebrard and Vincent W. Zheng (tutorials), Matti Jarvisalo (demo track), Edith Elkind (videos competition), Roman Bartak and Yuki Nakagawa (robotic exhibition), William Yeoh and Makoto Yokoo (doctoral consortium), George Katsirelos (survey track), Serena Villata (sister conferences best papers track), Malte Helmert (journal track), Hirotaka Osawa and Catholijn Jonker (competitions and challenges), Michela Milano and Sabine Storandt (special track on computational sustainability and human well-being), Long-

bing Cao (special track on AI in FinTech), and Neil Yorke-Smith and Franziska Klügl (Community and Diversity chairs). Fourth, the many people who contributed throughout the review and editing process, especially Francisco (Tito) Cruz and Marc Pujol, who helped at all stages of the submission, review and program construction processes, and who spent weeks building a good assignment of papers to reviewers, performing paper formatting quality control, giving professional feedback to the authors, and scheduling all presentations in the final program. Their support of the program chair was invaluable. Many others have helped in different phases of the process: Clément Carbonnel and Nadjib Lazaar (workflow chairs), whose help was crucial in the daunting task of recruiting program committee members; the CMT support staff, who were always extremely responsive and keen to introduce new features in their tool; Laurent Charlin, who made the Toronto Paper Matching System (TPMS) available for the paper bidding phase; Fiammetta Ghedini, who designed the video explaning the review process; and Marta Abad, who profesionally designed everything from the conference logo to the program brochure. In addition to those whose work made the content of the conference possible, many worked to make the operation of the conference possible. The local arrangements committee (LAC) did "triple duty" in first planning for the original location of Nagoya; then replanning for the relocated conference in Yokohama; and finally supporting the conference in a "virtual Yokohama." The LAC was chaired by Takayuki Ito. Andrew Jiang served as the local arrangement manager. The local arrangements require significant effort and we are very grateful to all of the LAC members.

Finally, we would like to offer our deepest gratitude to Vesna Sabljakovic-Fritz, IJCAI Executive Secretary. Vesna takes the lead on everything from site visits to logistics planning to team coordination to program chair support, and is an invaluable resource for the IJCAI community. We could not have run this conference without her!

- *Christian Bessiere* (Program Chair)
- *Marie desJardins* (Conference Chair)