Optimizing Application Placement in Mobile Edge Computing

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         The Hong Kong Polytechnic University

▶ Abstract

One of the main challenges in Mobile Edge Computing (MEC) is finding an efficient placement of applications on the MEC servers that minimizes the cost of running the applications. We address this issue by designing two algorithms for efficient application placement in MEC. The first algorithm is an online iterative matching algorithm. The second one is a parallel greedy algorithm based on the Sample Average Approximation method for stochastic optimization problems. We evaluate the performance of the proposed algorithms, by conducting an extensive experimental analysis on problem instances of different sizes. The results show that the proposed algorithms obtain good quality solutions and have very small execution times for reasonably large problem instances.

▶ About the Speaker

Daniel Grosu is an Associate Professor in the Department of Computer Science at Wayne State University, Detroit, Michigan, USA. He received the Diploma in engineering (automatic control) from the Technical University of Iasi, Romania, in 1994 and the MSc and PhD degrees in computer science from the University of Texas at San Antonio in 2002 and 2003, respectively. His research interests include parallel and distributed computing, edge and cloud computing, approximation algorithms, parallel algorithms, and topics at the border of computer science, game theory and economics. He has published more than one hundred peer-reviewed research articles in the above areas. He and his PhD student co-authors received several best paper awards including: the INFORMS 2015 IBM Research Service Science Best Student Paper Award Finalist, the 2014 INFORMS Service Science Best Paper Runner-Up Award, the 2014 INFORMS ENRE Best Student Paper Award, and the IEEE CloudCom 2010 Best Student Paper Award. He has served on the program committees of several international meetings in parallel and distributed computing such as ICDCS, CLOUD, EDGE, CloudCom, ICPP, and NetEcon. He is a senior member of the ACM, the IEEE, and the IEEE Computer Society.

All are welcome!

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