Research Engineer in Network Optimization

About the company

Qplox is a fast-growing company offering test and automation engineering. Headquartered in Leuven, with offices in Barcelona and Eindhoven.
Our clients are major multinational enterprises and local companies from automotive, semiconductors, RF, consumer electronics…. Our Test automation group offers a one stop shop for design of automated test benches, system integration production, lab automation and data acquisition systems, with a growing focus in IoT sensor networks.
Our consultancy department offers services in RF, semiconductors and electronics design and test, as well as on the crossing roads of Nanotechnology, Bio-Science Engineering and Biotechnology.

Job Description

Together with research and engineering team in advanced computational optimization focused on network applications, you will:

- Develop methods and algorithms customized for network optimization problems involving nonlinear coupling constraints, nonconvex/nonlinear composite objective functions, etc.
- Evaluate numerical/experimentally these network optimization algorithms on selected use cases with real-life data sets.
- Integrate them as part of product-grade solver framework for a automated execution.

Location: Leuven

Candidate Description

- Network optimization including network design, routing/traffic assignment, resource allocation, flow/resource scheduling, etc.
- Optimization methods/algorithms (must): mixed integer nonlinear programming (must) and at least one of the following:
    - Iterative methods: first order methods (linesearch methods, subscape methods, etc.), Gauss-Siedel, Jacobi, Newton-Raphson methods, etc., Primal-dual methods (Lagrangian methods, etc.), interior point methods.
    - Projective/proximal methods.
    - Variational methods.
- Programming (must): strong skills in C/C++, Fortran, and Octave.
- Solving frameworks: (M) NLP (e.g. Gurobi, SCIP, Couenne/COIN-OR, SHOT/COIN-OR, Algencan, Bonmin, etc.), Subsolvers (e.g. MIP: CPLex, NLP: Ipopt, Conopt).
- Excellent English level proficiency (both oral and written).

Kindly provide your complete CV with both research and work/practical experience, including elements that demonstrate:

- Outstanding programming skills (experimental code or ICPC winner) in C/C** and Fortran-note: excellent skills in Octave programming is considered as a plus.
- Expertise in network optimization methods and algorithms: list of achievements and publications (Springer: JOTA, AMO, COAP, JGO, NUMA, etc. Wiley: Networks, IEE JSAC, IEEE Transactions on Comunications, etc.)-note: theoretical knowledge of abstract algorithms not sufficient.

We offer

An attractive salary package with extra benefits. A high tech, multicultural and young ambient. A fast track in a growing company. Formation in multidisciplinary environment plenty of learning opportunities.

Contact

Send your CV and application letter to jobs@qplox.com with the subject "**Research Engineer in Network Optimization".**