

Position Description

Algorithm Developer



BUSINESS UNIT	Product Development
REGION	India
REPORTS TO	Software Engineering Manager
DIRECT REPORTS	N/A

About Energy Exemplar

Energy Exemplar is the global market leader in the technology of optimization-based energy market simulation. Our software suite, headlined by PLEXOS and Aurora, is used across every region of the world for a wide range of applications, from short-term analysis to long-term planning studies.

Driven by the frenetic pace of advancements in computing technology and mathematical algorithms, our people continually think of novel approaches and more realistic simulations that enhance decision making, create market opportunities that benefit us all and enable utilities and regulatory authorities to become smarter, more energy efficient and profitable.

Energy Exemplar continues to 'push the envelope', being first-to-market with the latest advances in mathematical programming and energy market simulation theory, as it strives to offer the most comprehensive simulation software to its customer base. Development continues to be headquartered in Adelaide, South Australia, led by Glenn Drayton and backed by a team with expertise in software development, operations research, economics, mathematics, statistics, and electrical engineering.

Our Core Values

CUSTOMER SUCCESS

- Solve the problems that matter
- Deliver solutions that drive outcomes
- Customers' success drives our business success.

ONE GLOBAL TEAM

- A place where everyone can do their best work
- Passionate about making a positive impact
- Collaborate, communicate and act as one team

INTEGRITY & OWNERSHIP

- Take ownership and be accountable for outcomes
- Value spirited debate then align behind decisions
- Operate at the highest standards

INNOVATION EXCELLENCE

- Frontrunners – relentlessly pursuing innovation and excellence
- Foster idea generation at all levels
- Create the future by pushing the boundaries of today

About the Role

The Algorithm Developer is responsible for developing and maintaining the optimization engines and ancillary calculations in our products. These form a core part of the overall company's platform offering and require in-depth domain knowledge and mathematical programming experience. Not only does this role address the platform's content software development needs, but it also covers the technical support element to the business. This includes interaction with clients to understand the domain issues they are trying to solve, as well as the implementation of these solutions.

Key Accountabilities and Duties

Algorithm Design and Development	<ul style="list-style-type: none"> • Research new and emerging technologies in the energy domain (concentrating on specific areas, e.g. transmission developments, market rules, etc.) • Propose concise and performant formulation specifications for new features required • Develop the proposed feature/s while maintaining high quality coding standards (see "High Code Quality Contribution" accountability) • Design, develop, review, re-factor, and maintain software with quality and performance in mind • Collect feedback from design and technical staff on development needs • Conduct technical testing to resolve existing or introduced problems • Engage in requirement specification process for new software functionality • Produce technical documentation such as incremental design specifications and user manuals.
Technical Support	<ul style="list-style-type: none"> • Liaise with colleagues and clients to reproduce and correct any defective software • Provide technical advice and suggestions to customers • Ensure high priority items are addressed urgently, providing timely responses • Understand the clients query, answering technical queries concisely in language they understand (i.e. understand the domain).
High Code Quality Contribution	<ul style="list-style-type: none"> • Produce concise high-quality code, with performance and memory considerations at the forefront of any design • Develop and demonstrate functionality through PoC (proof of concept) builds • Understand core programming paradigms • Experience with core development fundamentals, e.g. system architecture, memory management, parallel processing, base classing, etc. • Add to engineering team's culture of high code quality.
Global Team Interaction and Collaboration	<ul style="list-style-type: none"> • Seek support from local and global developer teams when required • Recommend solutions and options to global team when required • Participate in global projects and attend stakeholder meetings, as and when required (often outside of "normal" work hours, due to the global nature of the meetings).

Required Knowledge, Skills and Experience

KNOWLEDGE AND SKILLS	
• Breadth of experience with .NET (including VB.NET and C#), and other development languages (e.g. C++, Python, etc.)	Essential
• Strong mathematical skills, with solid theoretical background in numerical analysis and optimization techniques	Essential
• A deep understanding of Operations Research	Desirable
• Strong knowledge and experience working with complex models	Desirable
• Strong knowledge and experience working with energy system modelling and simulation, analysis and operation, optimization and numerical analysis methodology	Desirable
• Ability and willingness to work independently and collaboratively	Essential
• Ability to interact effectively with team members	Essential
• Ability and desire to effectively present to others	Essential
• Driven and passionate about the code and products being produced	Essential
EDUCATION AND EXPERIENCE	
• Bachelor's Degree in Computer Science or a related field	Essential
• Post graduate degree (MSc, PhD, etc.), comp science , Maths, in relevant field	Desirable
• 5+ years commercial experience in a .NET development environment	Essential
• Experience working in an Agile development environment	Essential
• Experience with linear and mixed integer programming tools	Desirable
• Familiarity with analytical tools, such as Unit Commitment, Economic Dispatch, Load Flow, Contingency Analysis, etc.	Desirable

Above all, to be successful in this role the successful candidate will have:

Outstanding attention to detail – Must have excellent attention to detail when analysing data and preparing / issuing reports for customers.

An analytical mind – Must have the ability to effectively analyse data and identify patterns / trends across situations that are not obviously related, and to identify key or underlying issues in complex situations.

A strategic mind – Must have the ability to think strategically, conceptually, imaginatively, systematically and opportunistically.

Initiative – Must be proactive and have the ability to initiative actions based on own interpretation or understanding of varying situations.

Patience - Governments and energy organizations can move very slow, very fast and everything in between. You will have to accommodate varying levels of commitment and timing and not push a situation that requires patience.

Emotional Intelligence - You need to feel the customers situation, problems, sense of urgency, energy.

Resilience and Tenacity – Successful candidates will be willing to work under pressure in a dynamic environment.

Curiosity - We are looking for someone who is a lifelong learner. We want someone who is naturally curious and passionate about learning.

Excellent Communication - Spoken and written communications skills are tremendously important in this role. You will need to be an excellent communicator to be successful in this role.

Flexibility - Comfort with change and working in a sometimes uncertain environment will be key.

