



Head of CFD and Simulation

Job Description

Location: Oxford, UK

Job Type: Full-Time

Job Summary:

We are looking for a visionary and technically accomplished Head of CFD and Simulation to lead our simulation efforts across diverse high-performance engineering projects. This senior leadership role requires a strong foundation in computational fluid dynamics, proven team leadership, and the ability to shape simulation strategy and innovation.

You will be responsible for driving the development and implementation of state-of-the-art CFD tools and methodologies, including AI and machine learning integration, managing a growing team of engineers, and ensuring that simulation plays a pivotal role in our product development and performance optimisation efforts.

Key Responsibilities:

- **Strategic Leadership:** Define and lead the CFD and simulation strategy, aligning with business and technical objectives across programs.
- **Team Management:** Build, manage, and mentor a high-performing team of CFD and simulation engineers, fostering a culture of excellence, innovation, and collaboration.
- **Technical Oversight:** Guide the execution of all CFD projects, ensuring technical accuracy, relevance, and alignment with experimental data and real-world performance.
- **Method Development:** Oversee the continuous development of internal CFD tools, scripts, and workflows to improve accuracy, automation, and scalability.
- **AI & Machine Learning Integration:** Champion the integration of AI and ML techniques within the CFD and aerodynamic toolchain to enhance predictive capabilities, automate workflows, and derive insights from large datasets.
- **Cross-Functional Collaboration:** Work closely with the aerodynamics, design, experimental testing, and software development teams to ensure simulation is fully integrated within the product development cycle.
- **Stakeholder Engagement:** Act as the primary technical contact for simulation-related topics, including external clients, partners, and suppliers.
- **Innovation and Research:** Maintain awareness of emerging technologies, academic research, and industry trends. Promote collaboration with academia and external partners to remain at the forefront of CFD advancements.



- HPC & Software Infrastructure: Lead decisions on computational resources, cloud/HPC usage, software licensing, and development pipelines.
- Governance and Quality: Ensure that simulation deliverables meet internal standards for quality, reproducibility, and traceability.

Requirements:

- Master's degree or PhD in Aerospace Engineering, Mechanical Engineering, or a related field.
- Significant hands-on experience in CFD and simulation, a minimum of 3 years professional experience would be expected
- A good level of experience in a technical or team leadership role, with an expected minimum of 2 years in such a leadership role
- Deep expertise in aerodynamics, turbulence modeling, and numerical methods.
- Strong experience with CFD software (preferably STAR-CCM+), including pre-/post-processing tools (ANSA, EnSight, ParaView).
- Proficient across a range of programming languages, including Python, Java, JavaScript, HTML, C++; capable of directing software/tool development initiatives, and with demonstrated experience of using these tools in a professional environment
- Solid knowledge of Linux-based systems, scripting (Bash, PowerShell, VBA), and HPC cluster management (SLURM or similar), including direct experience of setting up and maintaining HPC systems
- Experience integrating simulation workflows with CAD (e.g., SolidWorks, CATIA).
- Experience applying AI/ML methods to CFD or aerodynamics challenges is highly desirable.
- Excellent project management, organizational, and communication skills.
- Demonstrated ability to lead multidisciplinary teams and drive continuous improvement.
- A strong team player with excellent interpersonal skills, a 'can-do' attitude, and a proactive approach to problem-solving.
- Exposure to full stack development, cloud computing, or data science is a plus.

What We Offer:

- Competitive salary and benefits.
- A leadership role within a cutting-edge engineering organization.
- Opportunity to shape the future of CFD and simulation capabilities at scale.
- An environment that values innovation, autonomy, and technical excellence.

To Apply:

Please submit your CV, cover letter, salary expectations, and earliest availability to info@aero-dynamique.com by 30th June 2025.

