

**OBJECTIVE:** Seeking a position in Fluid Dynamics Engineering

**SUMMARY OF QUALIFICATIONS**

- 15+ years of experience in the field of Mechanical Engineering
- Expert level in applied Computational Fluid Dynamics (CFD)
- Proven results in the R&D of gas turbine engines, HVAC, home appliances and medical equipment
- Professional communication skills include fluency in English, German, Russian, French and Korean
- Computer skills include:
  - CFD: CFX, Fluent, Polyflow, Icepack, Fastest-3D, FlowTherm;
  - Structural: ANSYS Mechanical, ANSYS Dynamical;
  - Mesh: Ansys Mesh, ICEM-CFD, Fluent Mesh, Gambit, Turbo Mesh;
  - CAD: UG, Design Modeler, Space Claim;
  - Other: Workbench, FSI;
  - Computer languages: Fortran, C/C++, Visual Basic, HTML, PHP;
  - OS: Unix, Linux and MS Windows.

**PROFESSIONAL EXPERIENCE**

- |   |                     |
|---|---------------------|
| <b>Principal Engineer</b>   | <b>2013-present</b> |
| Samsung Electronics, Suwon, S. Korea, <a href="http://www.samsung.com">www.samsung.com</a>  |                     |
| <ul style="list-style-type: none"><li>• R&amp;D of medical equipments</li><li>• Simulation of heat and mass transfer (CFD), mechanical analysis and design</li><li>• Providing experiments</li></ul>  |                     |
| <b>Senior CFD Analyst</b>   | <b>2010-2013</b>    |
| Simutech Group, Toronto/Montreal, Canada, <a href="http://www.simutechgroup.com">www.simutechgroup.com</a>  |                     |
| <ul style="list-style-type: none"><li>• Simulation of flows with combustion, heat &amp; mass transfer (CFD)</li><li>• Consulting, teaching and support in the field of CFD</li></ul>  |                     |
| <b>Principal Engineer</b>   | <b>2008-2010</b>    |
| NPO "Saturn", Moscow, Russia, <a href="http://www.npo-saturn.ru">www.npo-saturn.ru</a>  |                     |
| <ul style="list-style-type: none"><li>• R&amp;D of combustion chambers of Gas Turbine Engines (aircraft &amp; power plant)</li><li>• Modeling of flows with combustion, heat &amp; mass transfer (CFD)</li><li>• Optimization of numerical simulations</li><li>• Providing lectures for engineers (CFD)</li></ul> |                     |
| <b>Senior Engineer</b>  | <b>2006-2008</b>    |
| LG Electronics, Changwon, S. Korea, <a href="http://www.lge.com">www.lge.com</a>  |                     |
| <ul style="list-style-type: none"><li>• R&amp;D of home appliances</li><li>• Simulation of combustion processes in gas range systems (CFD)</li><li>• Providing experiments</li></ul>  |                     |
| <b>Mechanical Engineer</b>  | <b>2005-2006</b>    |
| LANTEP, Moscow, Russia  |                     |
| <ul style="list-style-type: none"><li>• R&amp;D of HVAC systems in passenger carriages</li><li>• Analyzing of air motion in the passenger carriages (CFD)</li><li>• Development software for pressure drop calculation in pipe systems (Visual Basic)</li><li>• Inspection of experimental equipment</li></ul>    |                     |
| <b>Scientific Researcher (PhD in Mechanical Engineering)/Mechanical Engineer</b>  | <b>2002-2005</b>    |
| TU, Darmstadt, Germany, <a href="http://www.ekt.tu-darmstadt.de">www.ekt.tu-darmstadt.de</a>  |                     |
| <ul style="list-style-type: none"><li>• R&amp;D of combustion chambers of Gas Turbine Engines</li></ul>   |                     |

- Research of flows with combustion, heat & mass transfer (CFD)
- Development new turbulent, combustion, heat & mass transfer models (CFD)
- Development software for modeling turbulent flows (Fortran/C++)

## EDUCATION

### **PhD in Mechanical Engineering (Gas Turbine Engines & Power Plants) 1999-2002**

TU, MAI, Moscow, Russia, [www.mai.ru](http://www.mai.ru)

- Research of thermo-dynamical processes in power plants based on gas turbine engine
- Development of simulation models for compressor, combustion chamber, turbine, after burner and nozzle of gas turbine engines
- Analysis of control system of power plants based on gas turbine engine
- Software development for simulation thermo-dynamical processes (Visual Basic)

### **Mechanical Engineer Diploma 1993-1999**

TU, MAI, Moscow, Russia, [www.mai.ru](http://www.mai.ru)

- Diploma with honor, cumulative GPA: 4.84 / 5.0

## AWARDS & PATENTS

Awarded 2nd prize (team) of World LG contest for new concept of gas range system 2007  
Honored (team) for development of high performance combustion chamber 2009  
US2016/0235377 A1, US2016/0235378 A1 and 4 under registration 2014-2017

## Comprehensive projects

- Development of perspective Computed Tomography: Structure and cooling performance (Samsung, S. Korea)
- Simulation and design of exhausted system of gas turbine engine (Simutech/GE, Canada/USA)
- Development of low emission combustion chamber of stationary gas turbine engine (Saturn, Russia)
- Research of unsteady flows in combustion chambers of gas turbine engines (TU, Germany)
- Research of stationary gas turbine engine with double heat input and heat regeneration (MAI/Saturn, Russia)

## PUBLICATIONS (not all, downloadable on [www.yun.su](http://www.yun.su))

- A. Yun *Computational Fluid Dynamics: from zero to guru. Book. ~600 pages. Create Space. US. 2017. (in English)*
- A. Yun *Research of flow and structural analysis. Book. 427 pages. 3<sup>rd</sup> edition. «LENAND». Moscow. Russia. 2013. (in Russian)*
- V.Bakulev, B.Krillov, A. Yun *The calculation of attitude-velocity characteristic of gas turbine engine. School book. 60 pages. "MAI". Russia. 2000. (in Russian)*

## HOBBY

- Taekwondo: vice-champion of Russia-CISM (97,98,99), champion of Germany-DHU (04)