



# Applicant Application Review

Full Name: Ahmed Mohamed Nagib Elmekawy



## Personal Informations

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| Name:            | Ahmed Mohamed Nagib Elmekawy                       |
| Gender :         | 1  |
| Nationality :    | Egypt  |
| Date of Birth :  | 1984-10-13   |
| Country :        | Egypt  |
| City :           | Alexandria   |
| Address :        | 20 A Tut Ankh Amon, Smouha Tower, Apt 1004, Smouha |
| ID Type :        | 28410130200957                                     |
| Marital status : | Exepted  |
| Mobile Number :  | 01011986212  |
| Home Number :    | 034230856  |
| Email :          | elmekawy84@gmail.com                               |



## Education Information

|                   |   |
|-------------------|---|
| Academic Degree : | PhD in Aerospace Engineering              |
| Academic Study :  | Old Dominion University, Norfolk, VA, USA |
| Academic Grade :  | A-  |
| Data Gained :     | 2014-05-12                                |
| From :            | 2009-06-28                                |
| To :              | 2014-02-14                                |
| Academic Degree : | MSc in Mechanical Engineering             |
| Academic Study :  | Alexandria University, Alexandria, Egypt  |
| Academic Grade :  | A   |
| Data Gained :     | 2009-08-10                                |
| From :            | 2006-09-21                                |
| To :              | 2009-06-22                                |
| Academic Degree : | BSc in Mechanical Engineering             |
| Academic Study :  | Alexandria University                     |
| Academic Grade :  | A   |
| Data Gained :     | 2006-06-15                                |
| From :            | 2001-09-21                                |

|                        |  |
|------------------------|--|
| To :                   | 2006-06-01   |
| <div><div></div></div> |  |
| Emp Name :             | Faculty of Engineering, Alexandria University  |
| Emp Address :          | Elshatby, Alexandria   |
| Emp Title :            | Assitant Professor   |
| Emp Description :      | Conduct research in Fluid-Structure Interaction using CFD and Structural Dynamics, Heat Transfer and Optimization. Teach courses such as Computational Fluid Dynamics, Mechanical Vibration, Finite Element Analysis, Automatic Control, Machine Design, Matlab, Mechanics of Material and Optimum Design. • Published 2 conference and 3 journal papers. • Perform consulting jobs. • Leading several student competition teams such as: o Two robotics teams who build remotely underwater operated vehicles and participated in regional and international competitions. Teams were ranked 1st and 3rd of 28 teams at International ROV Competition at Seattle, USA, June 2018. o A robotic team participated in international competition at India, 2015. Team was ranked 4st of 32 teams. o A human powered vehicle team participated in ASME HPVC competition, team was ranked 13th of 48 teams international competition at Michigan, USA, April 2019. o Supervision of remote controlled aircraft team participated in SAE international competition at Florida, USA, March 2018. • ASME Student Chapter Supervisor at Alexandria University (2016- 2019). • Department representative for Faculty quality assurance. • Designed and built a website to upload lectures to the students with more than 700,000 views in three years. |
| From :                 | 2005-06-29   |
| To :                   | 2020-07-14   |
| Emp Name:              | Flexible Steel Lacing Company  |
| Emp Address :          | 2525 Wisconsin Ave, Downers Grove, IL, USA   |
| Emp Title :            | Staff Research and Development Mechanical Engineer   |
| Emp Description :      | Developed and implemented continuous and discrete physical models using state-of-art and advanced FEA algorithms. Conducted motion and kinematic analysis and linkage optimization for applicator tools. Participated in the design, performance and evaluation of appropriate experiments to solve engineering problems, and to validate simulations by using a variety of sensors. Designed and selected of applicator tools, hydraulic and Pneumatic equipment and heat exchangers. • Jumpstarted several finite element analysis projects by leading approaches and methodologies that were not previously considered reducing new products release time by 50% incorporating mathematical modeling and optimization. • Mathematical analysis and optimization of one manual and two hydraulic applicator tools leading to a successful product launch of 1 million program and publishing 1 patent. • Lead the analysis and data acquisition team resulting in expediting the lunch of three projects.  |
| From :                 | 2012-05-14   |
| To :                   | 2015-06-20   |
| Emp Name :             |  |
| Emp Address :          |  |
| Emp Title :            |  |
| Emp Description :      |  |
| From :                 |  |
| To :                   |  |

## Qualifications & Traninng

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|-------------------|-------------------------------|
| Diploma :         | Category II Vibration Analyst |
| Study :           | II, USA                       |
| Grade :           | A                             |
| Course :          | Category II Vibration Analyst |
| Conent :          |                               |
| Organizing Body : | Vibration Institute           |
| Data Gained :     | 2012-09-21                    |
| Data Attend :     | 2012-09-18                    |
| Diploma :         |                               |
| Study :           |                               |
| Grade :           |                               |
| Course :          |                               |
| Conent :          |                               |
| Organizing Body : |                               |
| Data Gained :     |                               |
| Data Attend :     |                               |

## otherqualification[0]

|                         |   |
|-------------------------|---|
| Research Fellowships :  | Master Assistantship (2006- 2009) - Alexandria University, Alexandria, Egypt PhD Assistantship & Fellowship (2009- 2012) - Old Dominion University, Norfolk, VA, USA  |
| Scientific Committees : | N/A   |
| list of Publications :  | 1. F/A-18 Twin-Tail Buffet Modeling Using Non-Linear Eddy Viscosity Models, Ahmed Elmekawy, Osama Kandil and Oktay Baysal, Journal of Aircraft, Vol. 53, No. 4 (2016), pp. 1106-1112. 2. F/A-18 Twin-Tail Buffet Modeling Using Non-Linear Eddy Viscosity Models, Ahmed Elmekawy, Osama Kandil and Oktay Baysal, 44th AIAA Fluid Dynamics Conference, Georgia, USA, June 2014. 3. Numerical analysis of the prediction of the two-phase flow pattern by measuring vibration of pipelines, Ahmed Elmekawy, Mohamed Shabara, Hassan Elgamal and Bassuny El-Souhily, ASME IMECE Conference, Florida, USA, November 2017. 4. Aerodynamic Shape Optimization of Helicopter Rotor Blades in Hover using Genetic Algorithm and Adjoint Method, Sameh Darwish, Mohamed Abdelrahman, Ahmed Elmekawy, Khairy Elsayed, 56th AIAA Aerospace Sciences Meeting, AIAA SciTech Forum, Florida, USA, January 2018. 5. Numerical study of improving Savonius turbine power coefficient by various blade shapes, Ahmed Elmekawy, Hassan Saeed, Sadek Kassab, Alexandria Engineering Journal, Vol. 58, Is. 2, June 2019. 6. Optimization methodology to target a vibration source natural frequency of energy harvesting cantilever, Sallam Kouritem, Khaled Mohamed, Ahmed, Elmekawy, Hassan ELgamal, 9th Intl. Conf. on Advances in Civil, Structural and Mechanical Engineering, ACSM, London, United Kingdom, July 2019. 7. Computational modelling of non-equilibrium condensing steam flows in low-pressure steam turbines, Ahmed Elmekawy, Mohey Ali, Results in Engineering Journal, Dec. 2019, Volume 5, March 2020, 100065, DOI: 10.1016/j.rineng.2019.100065. 8. Simulations of Flow Separation Control using Different Plasma Actuator models, Hatem Abdelrauf, Ahmed M. Nagib Elmekawy, Sadek Kassab, Alexandria Engineering Journal, In Press, June 2020. |
| Conferences Attended :  | 44th AIAA Fluid Dynamics Conference, Georgia, USA, June 2014. 56th AIAA Aerospace Sciences Meeting, AIAA SciTech Forum, Florida, USA, January 2018  |
| Patents :               | Hydraulic vibratory tool for driving rivets of conveyor belt fasteners, S. Ng, D. Lotarski, A. Elmekawy – US Patent 2015/023073 - October 2015.   |

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| Research Grants (Awarded As PI) :      | • One of the PIs of the consortium of Electric Car project (ASRT Call no. 2/2019) with a budget of 10 million EGP – ongoing. • Design, Manufacture and Test a ventilator for Corona virus patients in Egypt (ASRT Call no. 7283) with a budget of 130,000 EGP – ongoing. |
| Contributed As Co-Pi :                 | N/A  |
| Supervision of Postgraduate Students : | Two graduated Master Students in 2018, 2019. Four Ongoing Master Students.   |

## References Employer

|            |  |
|------------|--|
| Name :     | Dr./ Oktay Baysal  |
| Position : | Dean, Professor & Eminent Scholar, Mechanical and Aerospace Engineering, Old Dominion University |
| Address :  | 102 Kaufman Hall, Norfolk VA 23529, United States  |
| telno :    | +1(757) 683-3789   |
| faxno :    | +1(757) 683-3789   |
| mail :     | obaysal@odu.edu  |
| Name :     |  |
| Position : | Global Engineering Director, Flexco  |
| Address :  | 1995 Oak Industrial Dr NE, Grand Rapids, MI 49505  |
| telno :    | +1(630) 971-6569   |
| faxno :    | +1(630) 971-6569   |
| mail :     | GWestphall@flexco.com  |
| Name :     |  |
| Position : |  |
| Address :  |  |
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| faxno :    |  |
| mail :     |  |