

# MD ABDUL AOWAL

📍 20/5, Pallabi, Dhaka-1216, Bangladesh 📞 +880-19-6242-4155

✉ aowal.eee@gmail.com 🌐 www.aowal.github.io

## RESEARCH INTERESTS

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Machine learning, Deep Learning, Computer Vision, Applications of Image Processing Techniques to Problems in Biometrics and Bimedical Imaging, Statistical Signal Processing

## EDUCATION

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**Bangladesh University of Engineering and Technology** *October 2015 - Present*  
Master of Science (M.Sc.), Information and Communication Technology

**Bangladesh University of Engineering and Technology** *March 2009 - July 2014*  
Bachelor of Science (B.Sc.), Electrical and Electronics Engineering *GPA : 3.39/4.00*

**Notre Dame College** *August 2006 - July 2008*  
Higher Secondary Certificate (H.S.C.), Science *GPA : 5.00/5.00*

## RESEARCH PUBLICATION

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- [1] **Md Abdul Aowal**, Adeeb Shahriar Zaman, S M Mahbubur Rahman, Dimitrios Hatzinakos, "Static Hand Gesture Recognition Using Discriminative 2D Zernike Moments " *in Proceedings of 35<sup>th</sup> IEEE TENCON*, pp. 1-5, Bangkok, Thailand, Oct. 2014 *[pdf]*

## RELEVANT COURSEWORK

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- **Graduate** - Data Warehousing and Mining | Applied Cryptography | Distributed Systems | Advanced Networking
- **Undergraduate** - Digital Signal Processing | Continuous Signal and Linear Systems | Random Signals & Process | Probability and Statistics | Linear Algebra | Calculus I | Calculus II | Computer Programming | Computer Networks | Communication Theory | Control System
- **Online OCW** - Deep Learning (Udacity) | Learning From Data(edX) | Algorithms on Graphs (edX) | Machine Learning for Data Science and Analytics (edX) | Machine Learning (Coursera) | Neural Networks for Machine Learning (Coursera)

## COMPUTER SKILLS

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<b>Programming Languages</b>	MATLAB,Python, C, C++, R, Java
<b>Python Packages</b>	OpenCV, Scikit-learn, Scikit-image, Numpy, Scipy, Jupyter, Pandas, Matplotlib, BeautifulSoup
<b>Web Development</b>	PHP, Laravel, CodeIgniter, Javascript, jQuery, MySQL, NoSQL
<b>Operating Systems</b>	Linux, Mac OSX, Windows
<b>Other Expertise</b>	Git, Weka, Latex, Shell Script, PSpice, Proteus, Quartus II, PSADF, Packet Tracer, VBA, MS Office(Word, Excel, & PowerPoint)

## INDUSTRY EXPERIENCE

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**Banglalink Digital Communications Limited** *October 2014 - July 2016*  
Planning Specialist, BSS Planning, Technology

**M2M Solutions & Services Limited** *March 2013 - September 2013*  
Programmer(\*\*part-time)

## SELECTED PROFESSIONAL PROJECTS

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- ◊ Worked as a freelancer for more than 50 projects in different fields like automated data mining, data visualization, designing interactive web map etc. (*Python, PHP, C++*) *[profile link]*
- ◊ Worked as a core team-member in developing GPS based Location Tracker, Fuel Level Tracker (*C++, PHP, Apache*)
- ◊ Developed a web-based system to monitor Location Tracker, Fuel Level Tracker (*PHP, CodeIgniter, MySQL, jQuery*)
- ◊ Developed a system for automated report generation to monitor NEs of BSC, Transcoder & RNC (*Python, PHP, Laravel, MySQL, Javascript*)
- ◊ Developed a web based application for monitoring softswitch (*PHP, jQuery, MySQL*)

## SELECTED ACADEMIC PROJECTS

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- ◊ Bengali Character Recognition using Convolutional Neural Network (CNN) (*Python*) *Data Mining*
- ◊ Multi-client distributed password cracking system (*Unix C*) *Distributed System*
- ◊ DES implementation in ECB or CBC mode (*Java*) *Applied Cryptography*
- ◊ FDM based Electromagnetic Simulator (*MATLAB*) *Numerical Analysis*
- ◊ Automatic Packaging System for Automation in Industry (*Embedded C*) *Control System*
- ◊ Microcontroller based Electronic/Digital Piano (*Embedded C*) *Microprocessor Lab*
- ◊ Design and Simulation of an 8 Bit Computer capable of executing 16 Instructions (*Proteus*) *Microprocessor Theory*
- ◊ AM Radio Receiver (*Hardware Project*) *Communication Lab*

## WORKSHOP ATTENDED

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- **Pattern Recognition: Techniques and Fields of Application** conducted by *Mahdee Jameel, Rensselaer Polytechnic Institute, USA* & organized by *IEEE Bangladesh Section*
- **Workshop on Bengali Literature** organized by *Notre Dame Writers Club*

## ACADEMIC HONORS AND AWARDS

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- University Admission Test Excellency Scholarship
- Dhaka Education Board Scholarship by Ministry of Education, Bangladesh for excellence in H.S.C. Examination and S.S.C. Examination

## EXTRA-CURRICULAR

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- Presented a paper in the 35<sup>th</sup> IEEE TENCON, Bangkok, Thailand (October 2014)
- Acted as Vice-President of NDC Nature Study Club (July 2007 - June 2009)
- Participant of National Undergraduate Mathematics Olympiad (2010, 2013)
- Participant of Techkriti Robotics Competition of IIT Kanpur, Bangladesh round (February 2013)
- Member of Engineering Students Association of Bangladesh (ESAB)
- Sports: Team-member of semi-finalist team in Rag Football championship-2014 & Inter-hall football championship; Avid player of Cricket, Badminton, Table-tennis as well

## REFERENCES

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**Dr. S. M. Mahbubur Rahman**  
Professor, EEE, BUET  
Cell Phone: +880-18-2393-3902  
E-mail: mahbubur@eee.buet.ac.bd

**Dr. Hossen Asiful Mustafa**  
Assistant Professor, IICT, BUET  
Cell Phone: +880-2-5516-7100/6208  
E-mail: hossen\_mustafa@iict.buet.ac.bd