# CURRICULUM VITAE

## of

*Professor Naim M. Ajlouni,* ***B.Sc. M.Sc. Ph.D.***

### Intelligent Computer Control

***Name*** *: Naim Mahmoud Ajlouni*

***Current Position*** *: Prof. Computer Science & Engineering*

*Istanbul Aydin University-Turkey*

***Nationality*** *: British*

***Date of Birth*** *: 26th January 1959*

***Marital Status*** *: Married*

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***Field of Specialty :*** *Ph.D. in Intelligent Computer Control Systems.*

***Current Academic Status :*** *Professor*

***Education:***

***High School*** *: Wadi-Sier Secondary School 1965-1977, Jordan*

***B.Sc.*** *: In Electrical & Electronic Engineering, Bolton Inst. of Higher Education 1986, UK*

***M.Sc.*** *: In Electronic Eng. Control Engineering, University of Salford 1992, UK*

***Ph.D.*** *: In Intelligent Computer Control, University of Salford 1995, UK*

## Languages: Arabic, English

## Consultation Work

* ***Business Continuity and Disaster Recovery*** *(University of Balamand Lebanon);*
* *Department of Social Security Jordan, CAM Ltd Jordan ).*

## Certification

* Certified auditor for ISO 27001 */* ISO 9K
* *The Education & Training Foundation Prevent for Leaders and Managers*
* ***NCFE level 3*** In Assessing Vocational Achievement 2017, UK.
* ***NCFE Level 4*** *In Leading the Internal Quality Assurance of Assessment Processes and Practice 2017, UK.*

## Memberships:

* *Member of the Board of Trustees Al Tafieal Applied University;*
* *Member - Institution of Electrical & Electronic Engineers – (IEEE) International;*
* *Member –* Editorial Board for *World Scientific ( USA ).*
* *Member of Jordan International Affair Organization.*
* *Member of the Accreditation Committee for Education, The Certification Body UK “TCB UK”.*

***International Founded Projects***

* TAKEDOWN (H2020 FCT-16-2015) is a European Union’s Horizon 2020 Research and Innovation Programme project under Grant Agreement No 700688.

The project is concerned with the development of dynamic, multi-dimensional models for Organized Crime/Terrorism Network that reflect the complexity of individual and structural dimensions, geographical scale as well as the forms and levels of responses related to different stakeholder groups and first-line practitioners. The expected outcome of the project will be a modular TAKEDOWN Solutions Platform build as a flexible PaaS hosting digital security solutions for professionals with a centralized Security Solution Dashboard that is aggregating solution activity streams and includes digital reporting tool alert visualization’s. This project is being implemented in collaboration between the research community, public agencies, practitioners and industry (especially SMEs) providing a digital TAKEDOWN Professional Advisor to support the selection of the right solutions providers, experts, and approaches to tackle Organized Crime/Terrorism Network challenges. 2016.

* [*South Sudan Women Concern*](http://www.baringfoundation.org.uk/IntorgSSWC.htm)*, this is an* International Development Grants Programme supported Project. *The project aims towards capacity building of 30 groups of displaced women in Southern Sudan and provision of support to former child soldiers. 2011.*
* *Busoga Association UK, this is an* International Development Grants Programme supported Project *in calibration with The John Ellerman Foundation. The project tackles systemic issues such as lack of access to education, healthcare, changing societal and women's vulnerability to poverty in Uganda. 2012.*

## Training Courses:

* *Business Continuity 1990 – Date, Given to a number of organizations in Jordan;*
* *Disaster Recovery 1990 – Date, Given to a number of organizations in Jordan;*
* *Introduction to BS 25999, CAM Ltd, Jordan;*
* *Introduction to PAS 77 – IT Service Continuity, CAM Ltd, Jordan;*
* *Crises and Incident Management, CAM Ltd, Jordan;*
* *Developing & Managing BC, Department of Social Security Jordan, CAM Ltd Jordan;*

## Experience

1. *1986 – 1991. Dextralog Ltd., UK. I spent some time working in the industry as a Computer Systems Engineer for Dextralog Ltd., Whitebirk Ind. Estate, Blackburn, UK. During this period I have gained lots of practical and theoretical experience. My duties within the company included pre-sale specification of hardware, hardware system design, customer installation training, in-house configuration of systems, testing of software & hardware, commissioning of computer monitoring system, training of customers on the use and maintenance of the systems, and after sales customer support.*
2. *1991 -1992. Part-time lecturer, Manchester College of Art & Technology’, 90/91 & 91****/****92. During this time I taught practical electronics for 12 hours per week and digital electronics design and test for 2 hours per week.*
3. *1991 – 1993. Part-time Lecturer, North Trafford College (Manchester). During this time I taught an electrical principle, digital and analog electronics for 14 hours per week.*
4. *1995 – 1996. Assistant Professor, in the Electrical and Electronic Engineering department of Salford University, UK. During this time I was involved in a number of research projects within the University this work also resulted in a number of publications.*
5. *1996-1997. Research and Development at the Royal Scientific Society where I was involved in a number of industrial projects mainly in control and automation, and AI. The automation projects I was involved in within industry were:*
6. *Automation of Plastic Machine for MEC Jordan;*
7. *Business Impact and Risk Analysis, for Dar Al-Dawa (Pharmaceutical Industry);*
8. *Business Continuity and Disaster Recovery Basic Training Course (Dar-Al-Dawa);*
9. *Automation of production line for Dar-Al-Dawa (Pharmaceutical Industry);*
10. *Automation of production line for Hoppecke Jordan (Battery Manufacturers);*
11. *1997 – 2004. Applied Science University, Amman, Jordan, Associate Professor in the College of Computer Science & Information Tech. Jordan, during this period I was involved in a number of research projects including but not limited to E-commerce, E-Government, and many important software projects.*
12. 2004 -2007. A Professor, and Dean Graduate College of Computer Studies, Amman Arab University, with 250 postgraduate students in three different programs in computer science being Post Graduate Diploma, Master, and PhD.
13. 2007-2010. Vice President, A Professor Engineering College, Computer Engineering Department, Head of Al Balqa Electronic Academy, Al-Balqa' Applied University, Salt, Jordan.
14. 2008-2009 Acting President, A Professor Engineering College, Computer Engineering Department, Head of Al Balqa Electronic Academy, Al-Balqa' Applied University, Salt, Jordan.
15. 2010-2013. A Professor of Engineering College, Computer Engineering, Lancashire College of Further Education, UK.
16. 2014- 2016 Chairman of the Board of Directors “Mauritania Applied Science University” under Constructions. The City of Nouadhibou, Mauritania. A private comprehensive University Village established by a group of investors from the UK, Bahrain, and Hong Kong. The University Village is situated in the Free Zone city of Nouadhibou with a population of 200,000 people close to the borders of Algeria, with an expected number of 16,000 students at full operation. The University Village will have its own hospital, technical College “Polytechnic”, an international School, University Dorms for with 4,000 living Units, plus all necessary amenities including malls and markets, fields and so on. The funds raised for the project is well over 350 million Euro.
17. 2016 – To Date, Head of Private office of her Highness Princess Reem Bint Faisal Al Saud, responsible for all the Princess affairs and Business Investments within the Kingdom and GCC.

## Research Interest

1. *The use of Genetic algorithms for the Design Robust Nonlinear Control Systems;*
2. *Encryption & Information Security;*
3. *Information Hiding;*
4. *Software Engineering;*

## Thesis/Dissertation Supervision

## M. Sc. Thesis

1. *Use of Software Engineering Methodologies into the design of advanced banking System.* ***2002,*** *The Arab Academy for Banking & financial Science, MSc.*
2. *Intelligent Credit Rating System.* ***2002,*** *The Arab Academy for Banking & Financial Science, MSc.*
3. *Web-based Voting System.* ***2002,*** *The Arab Academy for Banking & Financial Science, MSc.*
4. *An Investigating the Feasibility of building a reliable & Secure M-Government Systems.* ***2003,*** *The Arab Academy for Banking & Financial Science, MSc.*
5. *Software Engineering Methodologies for the Design and Implementation of Blended E-Learning Courses. 2006, Amman Arab University for Graduate Studies, MSc.*
6. *Design and Implementation to Highly Secured Self Fixing Database for Online Examination.* ***2006****, Amman Arab University for Graduate Studies, MSc.*
7. *Improved Requirement Gathering Technique.* ***2006****, Amman Arab University for Graduate Studies, MSc.*
8. *Improved Information Hiding in Digital Image Using Transform Domain Technique.* ***2007****, Amman Arab University for Graduate Studies, MSc.*
9. *Designing E-Government System Structure Using Software Engineering Design Methodologies.* ***2007****, Amman Arab University for Graduate Studies, MSc.*

## Ph. D. Dissertations

### Intelligent Encryption/Decryption System, Ph.D. 2004 The Arab Academy for Banking & Financial Sciences. (First Ph.D. in Computer Science in Jordan)

### Enhanced Secured Voice Over IP System, PhD. 2005, Amman Arab University for Graduate Studies.

### Leader Election Algorithm in Hypercube with the Presence of One Link Failure. 2006, Amman Arab University for Graduate Studies.

1. *Dynamic Data Mining Technique for Large Data, PhD. 2006, The Arab Academy for Banking & Financial Science.*
2. *Enhancement of the IEEE 802.11 MAC Layer Handoff Process and Protocol, PhD. 2007, Amman Arab University for Graduate Studies.*
3. *Branch & Bound and A\* Search Using Fuzzy Underestimates, PhD. 2007, Amman Arab University for Graduate Studies.*
4. *Secured Self Fixing Database System, PhD. 2007, The Arab Academy for Banking & Financial Science.*
5. *Quantum Key Distribution, 2008. The Arab Academy for Banking & Financial Science.*

## Referees

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| --- | --- |
| 1. *Professor Sa'eed ElTell*

*Amman Arab University**Amman-Jordan**Tel: +962 6 5540040**president@aau.edu.jo* | 1. *Professor Sadeq Al Hamouz*

*World Islamic Sciences & Education University**Amman-Jordan**Tel: +962 789383144*sadeqhamouz@gmail.com  |
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*Lancashire College of Further Education, UK**Tel: +441254 433931**Email**lisa@lcfe.org* | 1. *Professor Daniel White*

*Lancashire College of Further Education, UK**Tel: +441254 433931**Email*dwhite@lcfe.org  |

## Conference Publications

1. *Tony Jones and Naim Ajlouni, ‘Genetic Design of Gain Scheduled Controllers for Non-linear Plants’, Proc IASTED Conference on control, Lugano, 1995.*
2. *Naim Ajlouni and Tony Jones, ‘Genetic Design of Fuzzy Gain scheduled Controllers for Non-linear Plants’, Proceeding of The International ICSC Symposium on Fuzzy Logic, May 26-27, 1995 Swiss Federal Institute of Technology (ETH), Zurich, Switzerland.*
3. *Tony Jones and Naim Ajlouni, ‘Design of Non-Linear PID Controllers using Genetic Algorithms’, European Control Conference ECC 1996 UK.*
4. *Naim Ajlouni, ‘Design of Model-Reference Neural PI controllers’, 4th International Conference on Control, Automation, Robotics & Vision, ICARCV 1996, wetin Stamford.*
5. *Tony Jones and Naim Ajlouni, ‘Evolutionary Design of Robust PID controllers’, 5th IEEE International Conference on Emerging Technologies and Factory Automation USA 1996.*
6. *Tony Jones and Naim Ajlouni, ‘Genetic Design of Set-Point Tracking PID controllers for Plants with Non-Linear Actuators’, 4th International Conference on Control, Automation, Robotics & Vision, ICARCV,1996, Wetin Stamford.*
7. *Naim Ajlouni and Tony Jones, ‘Auto-tuning of Dual Mode Controllers Using Genetic Algorithms’, International Federation of Automation Control (IFAC) Conference on Control of Industrial Systems, Belfort (France) (1996).*
8. *Naim Ajlouni and Tony Jones, Conversion of Petri Nets Models of Manufacturing System to Ladder Logic’ Diagrams ‘, 5th IEEE International Conference on Emerging Technologies and Factory Automation, USA, 1996.*
9. *Tony Jones and Naim Ajlouni, ‘Design of Desecrate Event Control System for Programmable Logic Controllers Using T-Timed Petri Nets’ IEEE International Symposium on Computer0 Aided Control System Design- CACSD’ USA, 1996.*
10. *N. Ajlouni, ‘Genetic Design of PID Plus feed forward Controllers’, 5th IEEE International Conference on Emerging Technologies and Factory Automation, USA, 1996.*
11. *N. Ajlouni, ‘Genetic Design of a Gain Scheduled controller for a Non-linear concentration Control System’, IEEE, International Symposium on Computer-Aided Control System Design, USA, 1996.*
12. *N. Ajlouni, Design of Neural Mapped PID Model Reference Controllers; International Multi-Conference/ Artificial Intelligent, Vegas USA, 21st - 26th June 2003.*
13. *N. Ajlouni, Mathematical Investigation & Genetic Neural Implementation of Feed Forward PID Controller. The 2004 International Conference on Artificial Intelligent (IA'04: June 21-24, 2004, Las Vegas, Nevada, USA).*
14. *N. Ajlouni, Genetic Design of Evolutionary Non-Linear Robust PID Controllers with Optimal Solutions. The 2004 International Conference on Artificial Intelligent (IA'04: June 21-24, 2004, Las Vegas, Nevada, USA).*
15. *N. Ajlouni and A. Abdualli, An Extended Rijndael Block Cipher Algorithm Using Java. The 2004 International Conference on Software Engineering Research and Practice (SERP'04: June 21-24, 2004, Las Vegas, Nevada, USA.).*
16. *N. Ajlouni and A. Abdualli, RANA Encryption Decryption System. The 2004 International Conference on Software Engineering Research and Practice (SERP'04: June 21-24, 2004, Las Vegas, Nevada, USA).*
17. *N. Ajlouni and A. Abdualli, RASAN Java Encryption Decryption System. The 2004 International Conference on Software Engineering Research and Practice (SERP'04: June 21-24, 2004, Las Vegas, Nevada, USA).*
18. *N. Ajlouni and A. Abdualli, Improved Information Hiding Technique in Digital Image, the 2007 International Conference on Artificial Intelligent (IA'07: June 21-24, 2007, Las Vegas, Nevada, USA).*
19. *N. Ajlouni and A. Abdualli, Role of Population Size, Crossover, and Mutation in Genetic Algorithm Design of PID Controllers, IEEE, International Symposium on Computer-Aided Control System Design, USA, 2007.*
20. *Naim Ajlouni Etal, A New Sonar Signals Discrimination Using BPVAM Algorithm. Applied Research International Conference on Science, Technology, Engineering & Mathematics (ARIC-STEM, 2018) to be held on 27th-28th September 2018 at Istanbul Aydin University, Turkey.*
21. *Naim Ajlouni Etal, Investigation the Performance Efficiency Between The Standard BB84 And E91 Protocols Against The Permutated Recovering of Unused Quantum BITS Method. Applied Research International Conference on Science, Technology, Engineering & Mathematics (ARIC-STEM, 2018) to be held on 27th-28th September 2018 at Istanbul Aydin University, Turkey.*
22. *Naim Ajlouni Etal, Swarms intelligence for autonomous drones. Applied Research International Conference on Science, Technology, Engineering & Mathematics (ARIC-STEM, 2018) to be held on 27th-28th September 2018 at Istanbul Aydin University, Turkey.*
23. *Alaa A. Hameed Etal, A Comparative Study on Signal processing of Acceleration Time Histories. Applied Research International Conference on Science, Technology, Engineering & Mathematics (ARIC-STEM, 2018) to be held on 27th-28th September 2018 at Istanbul Aydin University, Turkey.*
24. *Metin Zontel Etal, Customer Credit Rating Estimation By Using Machine Learning Methods. Applied Research International Conference on Science, Technology, Engineering & Mathematics (ARIC-STEM, 2018) to be held on 27th-28th September 2018 at Istanbul Aydin University, Turkey.*

## Journals Publications

1. *N. Ajlouni & Ajlouni, ‘Best-Case Results enclosed Area Learning’, The International Journal of Intelligent Control and Systems (*IJICS*), ISSN 1321-2354, June 1995, pages599-608.*
2. *N. Ajlouni, ‘Design of a Discrete Event Control System for a Manufacturing System Using Token Passing Ladder Logic’, Springer, LNCS Transactions on Petri Nets and Other Models of Concurrency, 1998, ISSN 1867-7193, pages 61-69.*
3. *N. Ajlouni, ‘Genetic Algorithms for Auto Tuning of PID Smith Predictor Controller, Journal of National Computer Center,* ***ICGST International Journal on Automatic Control and System Engineering****, ISSN 1687-4811, pages 34-42. 1999.*
4. *N. Ajlouni, ‘Genetic Design of Interpolated Non-Linear Controllers for Linear Plants’ Dirast, An International Refereed Research Journal, Jordan University, July 2000.*
5. *N. Ajlouni, ‘On Line Frequency Domain Identification and Genetic Tuning of PID Controllers’, The International Journal of Intelligent Control and Systems (*IJICS*).ISSN 2123-1871, 2000, pages 54-63.*
6. *N. Ajlouni, Genetic Design of Robust PID Controller to Deal with Prescribed Plant Uncertainty Through a Process of Competitive Co-Evolution’,* ***ICGST International Journal on Automatic Control and System Engineering****, ISSN 1687-4811, pages 56-67. 2000.*
7. *Naim Ajlouni, Genetic Design of a Gain-Scheduled Controller for Concentration System Control System, Jordan Journal of Applied Sciences. April 2000.*
8. *N. Ajlouni, Genetic Design of Set-Point Tracking PI controllers for Plants with Non-Linear Plants’ Jordan Journal of Applied Sciences. Jordan Journal of Applied Sciences, Aug. 2001.*
9. *N. Ajlouni, Design of Fuzzy Mapped PID Controller, COMPEL: The International Journal for Computation and Mathematics in Electrical and Electronic Engineering, ISSN 0332-1649, pages 34-42, August 2002.*
10. *N. Ajlouni, Mathematical Investigation & genetic Implementation of Feed Forward PID Controllers, COMPEL: The International Journal for Computation and Mathematics in Electrical and Electronic Engineering, ISSN 0332-1649, pages 75-87, Oct. 2003*
11. *N. Ajlouni, Genetic Design of Neural PID Plus feed forward Controllers,* ***ICGST International Journal on Automatic Control and System Engineering****, ISSN 1687-4811, pages 24-33. 2003.*
12. *N. Ajlouni, A Study of Current Methodologies and possible Recommendation for Supervising Undergraduate Graduate Projects in Both Government and private Universities in Jordan. Jordan Journal of Applied Sciences, Dec. 2003.*
13. *N. Ajlouni & S. Al Hamouz, Genetic Design of fuzzy Mapped PID Controllers for Non-Linear Plants, The International Journal of Intelligent Control and Systems (*IJICS*). ISSN 1523-2376, pages 55-67, January 2004.*
14. *N. Ajlouni, ‘The design of NeuroGenetic Model Reference PID Controller’, Jordan Journal of Applied Sciences, June 2004.*
15. *N. Ajlouni, Economic Efficiency Analysis for Information Technology in Developing Countries, Jordan Journal of Applied Sciences, March 2004.*
16. *N. Ajlouni, Genetic Design of Evolutionary Non-Linear Robust PID Controllers with  Optimal Solution, European Journal of Control, ISSN 260-276, pages 33-45, March 2004.*
17. *N. Ajlouni, Mathematical Investigation & genetic Neural Implementation of Feed Forward PID controller. The International Journal of Intelligent Control and Systems (IJICS. Vol. 42, issue 3, 2003.*
18. *N. Ajlouni, RASAN Java Encryption Decryption System, Information Systems Security, ISSN 1065-8984, pages 21-35, July 2005.*
19. *N. Ajlouni, ‘A mirror Implementation of Rijndael Ciphering System’, Information Systems Security, ISSN 1065-8984, pages 43-55, June 2005.*
20. *N. Ajlouni, ‘Reusability and Simplicity an Experience with Rijndael Algorithm’, Information Systems Security, ISSN 1065-8984, pages 21-34, July 2006.*
21. *N. Ajlouni, Initial Performance Comparisons for the Delta Coding Algorithm, International Journal for Numerical Methods in Engineering, ISSN 1323-1334, pages 45-56, January. 2007.*
22. *N. Ajlouni, Using Genetic Algorithms for Microcode Compaction, Journal of Genetic Algorithm and Simulated Annealing, ISSN 1723-1723, Pages 103-115, April 2008.*
23. *N. Ajlouni, A Dynamic Model of Tabu Search for the Job-Shop Scheduling Problem, Journal of Artificial Intelligence, ISSN 1156-1137, pages 76-79, Aug. 2009.*
24. *N. Ajlouni & F. Ajlouni, Using Existing DBMS Functionality to Implement a Checksum Technique for Improved Security, Information Systems Security, vol.51, issue 3, 2009.*
25. *Abdulla M. Abuayash & Naim Ajlouni, Permutated Recovery of Unused Quantum Bits. 2011 IEEE Jordan Conference on Applied Electrical Engineering and Computing Technology. Jordan University.*
26. *Naim Ajlouni, Alaa Ali Hameed, Firas Ajlouni.* [*Improving DBMS Security through the use of a Checksum Technique*](https://www.researchgate.net/publication/322245667_Improving_DBMS_Security_through_the_use_of_a_Checksum_Technique?_sg=c_dGbONUGPURkU5QwXOA1qvyfrWQOQNBwxGUP1yy4kTw5WAAmFG6elm6C9AI6Dgw6ilquEOVhRQQLRMW273u1N-R0OE3lX1xq5kcO_oN.jm3gZJMVBf64gwBNPw9waUkdJLqAcqCyXA0ijGdGh6hWDax0ah2RnFhr32xeTX8CzcpK69kPFDQxf1AYh_yUIQ)*. Dec. 2017, International Journal of Computer Science & information Security IJCSIS, ISSN 1947-5500, USA.*
27. *Naim Ajlouni, Alaa Ali Hameed, Wisam Alobaidi. Investigating the effectiveness of a BP with Variable Adaptive Momentum Compared to a Conventional BP Algorithm. Nov. 2018, Under Review, Springer “International Journal of Information Technology, submission ID is BJIT-D-18-00067.*

Teaching Statement

Naim Ajlouni, Istanbul Aydin University

Philosophy – I have always been inquisitive when it comes to machines, I started working with electrical electronic equipment from the age of 10, and university at 18; I have experienced all aspects of learning from different perspectives, and have put into practice skills I have learnt. University courses are not always practical and what students expect; they can feel that these are just boring lessons which are hardly connected to what they need at work. They are somehow right, and this is the reason I believe we need a serious pedagogical revolution in academic affairs. Thus, I have attempted to introduce new strategies in my classrooms; definitely I am not the first one who has done this, as considerable attention has been paid to problem‐solving methods.

I never pay attention to the presence of students in my class; the problem is that students from other departments and universities usually attend my classes. However, rarely a student can pass my course without attending, as a significant part of the final grade is active discussions in classroom. Nevertheless, if a student can convince me that s/he has sufficient knowledge in the course subject, they definitely deserve to pass the course. I strongly do believe that students should learn how to think, and my classes are not for knowledge transfer (as this should be done by reading textbooks). In school and university, students usually learn how to take examinations well (and sometimes through tricks and shortcuts). However, students should convince me that they can think scientifically in the course subject. In my exams, wrong answers always have a negative grade; a student cannot pass a course just with the total knowledge they have, but ability to use their knowledge and science. I believe it is the worst strategy as students write anything in exams risk‐free, with a blind chance to hit the target. In the real world, we have no right to make a mistake; actually making mistakes is much worse than not knowing. This wrong strategy has caused the appearance of numerous errors in the scientific literature, as authors are not afraid of publishing mistakes (as they gain the advantages, and then everybody says “ok, it happens”).

I always start my courses through friendly conversation about the class. I emphasize that “I am not here to teach you, instead we think together to achieve a better understanding of the course subject; the reason I am here as a professor is that I am still eager to learn more about the course subject. Of course, I wish to be a good professor, but this is only possible if my students become better than me.” Although professors are more university employees rather than scientists, I believe we are devotees to science; I am always available to students, not only in class and even during the official time. All eager students are welcomed to join my research group to experience real application of subjects discussed in the class.

Experience – I believe that teaching is a complicated process and cannot be simply generalized by one or a few methods. Every class has its own features, and needs special consideration. I have been in different situations and fortunate enough to successfully foster required cultures in my classrooms. I have worked in industry for a number of years therefore I know exactly what is expected from the student when they graduate, hence I make sure that they are able to see how what they are being taught fits in their everyday life.

In every class, it is assumed that all students have read the class topic according to the syllabus. The first 15 min is spent answering any questions about any unsure point they have encountered during reading the textbook. Then 30min is spent to assist the students to imagine the physical meaning of the mathematical equations (otherwise, mathematics is just misleading; this is the reason that students make big mistakes in maths). Another 30 min is spent introducing applications. The remainder of the class is open discussions about how these theories have evolved and how to connect them to other subjects.

Finally many innovative instructional methods have been developed for non-technical courses and emphasize free discussion and expressions of students' opinions, with minimal teacher-centered presentation of information. I believe that involvement of students is critical for effective classroom learning; however, much of the basic content of engineering courses is not a matter of opinion. Therefore I usually apply a mix of both by making sure that the basic material is covered by me, and at the same time the student is involved during this process by the discussion of relevant examples. This is usually followed in the next class by introducing hand on examples solved by students while I monitor and push them to finish the exercise: giving hints and helping students who find difficulties with the material being covered. I find this to be very helpful and at the end of the course students usually have a great deal of knowledge about the subject and how it relates to the real world application and its relation to other subjects within the curricular.

Research Statement

Naim Ajlouni, Istanbul Aydin University

Over the years I have been involved in computer engineering/science topics varying from intelligent computer controller design to data mining and QKD (quantum key distribution).

I have started my real research career in 1993, as a PhD student at Salford University; I have been involved in the research and development of some intelligent computer control systems which was based on the use of GA’s for the optimization of controllers for a number of highly specialized applications. This was further researched to include the development of new hybrid algorithms with both fuzzy logic and neural networks. I have also worked in the engineering of superscalar machines on open questions related to the design of complexity of the parallel issue logic. This was followed by investigating some of the networks hand-over problems, data and information security including some stenography, data encryption, and the encryption of voice over IP.

Current Research

My current research is focused on the design and implementation of intelligent Human Suicide bombers. In view of that I am addressing various topics which include image/signal processing, the design and implementation of special purpose drone, the use of infra-red/X-ray images and GPR (Ground Penetration Radar). More in particular I am focusing on the followings:

1. Design and developed of software to deal with some important component namely detection and recognition of both explosive devices and HSB, the sensors feeding the information will be mounted on a specially developed Drone capable of delivering the necessary information and controlled by trained security agencies.
2. The system will automatically identify the danger and follow the target and continuously report important information regarding the target and the surrounding area, the image of the target can also be further investigated by the system to try and identify the identity of the target by comparing the image with a database of known terrorists, in case of a positive ID the information is feed back to the officers in the scene of the attack.
3. The project will include a number of components which needs to be developed to achieve its objective, and it is expected that the project will need around 2 years to be finalized and produce the first prototype.

This work is still undergoing and will require further investigation, as we have designed and developed a suitable drone with capable of dealing the required missions under high pressure which includes target identification, recognition, and tracking, the algorithms for both the identification and recognition are of high performance and being improved to obtain more efficient result as some the application task require some improvements, the final prototype for this work will be ready within 24 months, and the process of registration of the patent will be started within the next 4 months.

Future Work

I am a great believer that science will require further work in different areas; this is why I have also worked and published work in a number of different areas including Software Engineering, NW, Data Mining, Algorithms.

I will continue to work in all mentioned fields and probably will move into other new areas as and when I am required to do so or when the need arises for good research opportunity.

Finally research is a duty that every scientist has to try and take seriously for the advancement of science. Individual research abilities will improve only by professionals doing actual research work regardless of advancement and or percentage personal contribution.