

# Ibrahim Albluwi

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## EDUCATION

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### **PhD in Automatic Systems and Computer Science** [October 2012].

Institut National des Sciences Appliquées (INSA), Toulouse, France.  
Research Lab: LAAS-CNRS, Toulouse, France.

### **Master of Science in Computer Science** [May 2009]

Sharjah University, Sharjah, United Arab Emirates.  
GPA: 3.94/4.0 (Rank: 1<sup>st</sup> in the computer science department).

### **Bachelor of Science in Computer Science** [May 2006]

Sharjah University, Sharjah, United Arab Emirates.  
GPA: 3.79/4.0 (Rank: 1<sup>st</sup> in the computer science department).

## EXPERIENCE

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### **Assistant Professor** [September 2020 — present]

Computer Science Department, Princess Sumaya University for Technology, Jordan.

### **Lecturer** [September 2016 — July 2020]

Computer Science Department, Princeton University, New Jersey.

- *Taught and designed material* for the following undergraduate courses:
  - COS 126: Introduction to Computer Science: An Interdisciplinary Approach.
  - COS 226: Data Structures and Algorithms.
- Advised *independent work projects* and *senior theses*.
- An *academic advisor* for the School of Engineering and a *faculty fellow* for Butler College (Fall 2018 — Spring 2020).

### **Visiting Lecturer** [July-August 2019 and July-August 2020]

Beijing Jiaotong University Global Summer School, Shanghai, China.

- *Taught and designed material* for the following undergraduate courses:
  - CS22: Introduction to Programming in Java.
  - CS21: Introduction to Computer Science.

### **Visiting Lecturer** [Summer of 2020]

International Partnership of Education Research and Communication (IPERC) and Saint Louis University - iStar Online Program.

- *Taught and designed material* for an introductory Computer Science course in Python.

### **Assistant Professor** [February 2013 — August 2016]

Computer Science Department, Princess Sumaya University for Technology, Jordan.

- *Taught and designed material* for the following undergraduate courses: Data Mining and Machine Learning (Level 4), Algorithms Analysis and Design (Level 3), Multimedia Technologies (Level 3), Data Structures and Introduction to the Analysis of Algorithms (Level 2), Object Oriented Programming in C++ Lab (Level 2), Structured Programming in C (Level 1), Visual Programming for Business Students (Level 1).
- *Advised* several undergraduate *senior projects*.
- Received the *university Outstanding Teacher Award in August 2016* and the best student evaluations at the Department of Computer Science in Fall 2014, Spring 2015 and Fall 2015.
- *Served in many committees* at the department, college and university levels. Most notably:
  - Coordinated joint programs with US universities including the University of Indiana, University of Michigan (Dearborn) and the University of Oakland.
  - Coordinated the senior projects program at the computer science department.
  - Supervised the ACM Student Chapter at the university (established in April 2014).

### **Teaching Assistant** [2006 — 2009]

Computer Science Department, University of Sharjah, United Arab Emirates.

- Assisted in the teaching of the following courses: Introduction to IT (5 times), Structured Programming in C++ (9 times), Data Structures (once), Object Oriented Programming in C++ (4 times), Software Development in Java (once), Web Programming (once), Operating Systems (3 times), Artificial Intelligence (once).
- Responsibilities included: supervising labs, conducting tutorials, grading assignments and quizzes, IT support and maintenance and exam proctoring.

### **Research Intern** [July — August 2005]


Software Metrics Lab, Department of Computer Science, Institute of Distributed Systems, Otto-von-Guericke University, Magdeburg, Germany.

## **PUBLICATIONS**

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### **Computing Education**

- Albluwi, Ibrahim and Haley Zeng. “Novice Difficulties with Analyzing the Running Time of Short Pieces of Code”. In *Australasian Computing Education Conference (ACE '21)*, pp. 1—10. ACM, 2020.
- Albluwi, Ibrahim and Joseph Salter. “Using Static Analysis Tools for Analyzing Student Behavior in an Introductory Programming Course”. *Jordanian Journal of Computers and Information Technology (JJCIT)* 6, no. 3 (2020): 215-233.
- Albluwi, Ibrahim. “Plagiarism in Programming Assessments: A Systematic Review.” *ACM Transactions on Computing Education (TOCE)* 20, no. 1 (2019): 6:1-6:28.
- Albluwi, Ibrahim. “A Closer Look at the Differences Between Graders in Introductory Computer Science Exams.” *IEEE Transactions on Education* 61, no. 3 (2018): 253-260.

- Luxton-Reilly, Andrew, Ibrahim Albluwi, Brett A. Becker, Michail Giannakos, Amruth N. Kumar, Linda Ott, James Paterson, Michael James Scott, Judy Sheard, and Claudia Szabo. “Introductory programming: a systematic literature review.” In *Proceedings Companion of the 23rd Annual ACM Conference on Innovation and Technology in Computer Science Education*, pp. 55-106. ACM, 2018.  
 This article won the “Top 5 in 25” award in ITiCS 2020, which was awarded to 5 working group reports out of the 129 working group reports published in the ITiCSE conference from 1975 to 2019.

## Robotics

- Denarie, Laurent, Ibrahim Al-Bluwi, Marc Vaisset, Thierry Siméon, and Juan Cortés. “Segmenting proteins into tripeptides to enhance conformational sampling with Monte Carlo methods”. *Molecules* 23, no. 2 (2018): 373.
- Devaurs, Didier, Léa Bouard, Marc Vaisset, Christophe Zanon, Ibrahim Al-Bluwi, Romain Iehl, Thierry Siméon, and Juan Cortés. “MoMA-LigPath: a web server to simulate protein–ligand unbinding”. *Nucleic acids research* 41, no. W1 (2013): W297-W302.
- Al-Bluwi, Ibrahim, Marc Vaisset, Thierry Siméon, and Juan Cortés. “Modeling protein conformational transitions by a combination of coarse-grained normal mode analysis and robotics-inspired methods”. *BMC Structural Biology* 13, no. S1 (2013): S2.
- Al-Bluwi, Ibrahim, Thierry Siméon, and Juan Cortés. “Motion planning algorithms for molecular simulations: A survey”. *Computer Science Review* 6, no. 4 (2012): 125-143.
- Al-Bluwi, Ibrahim, Marc Vaisset, Thierry Siméon, and Juan Cortés. “Coarse-grained elastic networks, normal mode analysis and robotics-inspired methods for modeling protein conformational transitions”. In *2012 IEEE International Conference on Bioinformatics and Biomedicine Workshops*, pp. 40-47. IEEE, 2012.
- Cortés, Juan, and Ibrahim Al-Bluwi. “A robotics approach to enhance conformational sampling of proteins.” In *International Design Engineering Technical Conferences and Computers and Information in Engineering Conference*, vol. 45035, pp. 1177-1186. American Society of Mechanical Engineers, 2012.
- Al-Bluwi, Ibrahim, and Ashraf Elnagar. “Pursuit evasion in dynamic environments with visibility constraints.” In *International Conference on Intelligent Robotics and Applications*, pp. 116-129. Springer, Berlin, Heidelberg, 2010.
- Al-Bluwi, Ibrahim, and Ashraf Elnagar. “Maintaining visibility of a moving target: Maximizing escape time vs. exposure time.” In *2010 11th International Conference on Control Automation Robotics & Vision*, pp. 982-987. IEEE, 2010.
- Al-Bluwi, Ibrahim, and Ashraf Elnagar. “Nearest Neighbor Classification Using The Layered Range Tree.” In *iiWAS*, pp. 383-388. 2007.
- Al-Bluwi, Ibrahim, and Ashraf Elnagar. “Tracking an evader in logarithmic time”. In *The Fourth International Conference on Computational Intelligence, Robotics and Autonomous Systems*. 2007.

## AWARDS

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### Teaching Awards

- **Princeton Engineering Commendation List for Outstanding Teaching for Spring 2020.** Princeton University [July 2020]
- **Excellence in Teaching Award for the School of Engineering and Applied Science.** Princeton University [February 2020]
- **Excellence in Teaching Award** for the School of Engineering and Applied Science. Princeton University [February 2019]
- **Best Teacher Award.** Princess Sumaya University for Technology [August 2016]  
*Awarded annually to one faculty member at the university.*

### Student Awards

- **PhD Scholarship.** LAAS-CNRS, Toulouse, France [2009 — 2012].
- **Certificate of Academic Excellence.** University of Sharjah [May 2006 and May 2009]  
*Awarded to students who graduate with a GPA higher than 3.6/4.0.*
- **Graduate Scholarship Award.** University of Sharjah [2006 – 2009]  
*Awarded annually to two students in every graduate program based on academic merit.*
- **Academic Excellence Money Grant.** University of Sharjah [May 2006]  
*Awarded to the student with the highest GPA at every college from the graduating batch.*
- **BP's Self-Motivated Leader Award.** British Petroleum (BP), United Arab Emirates [May 2006]  
*Awarded to one student at Sharjah University based on excellence in extra-curricular activities.*
- **Excellent Student Award.** Ministry of Education, Sharjah, United Arab Emirates [April 2002]  
*Awarded based on accumulative academic and non-academic excellence in high school.*

## PROFESSIONAL COURSES & CERTIFICATION

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**Training of Trainers (ToT).** Business Development Center, Amman, Jordan [April 2013].  
*An intensive one-week course on teaching/training methods and course preparation techniques.*

**Interdisciplinary College IK2011.** Gesellschaft für Informatik e.V. (Wissenschaftszentrum) in Günne, Germany [March 25<sup>th</sup> – April 1<sup>st</sup> 2011].  
*A graduate level spring school on “Autonomy, Decisions and Free Will” discussed from three perspectives: Computer Science, Philosophy and Biology.*

**9th Summer School on Image and Robotics.** LASMEA, IFMA and Blaise Pascal University in Clermont-Ferrand, France [June 23<sup>rd</sup> – July 4<sup>th</sup> 2008].  
*A graduate level summer school on image processing and robotics.*

**Sun Certified Programmer for the Java 2 Platform 1.4** [January 2005].

## COMMUNITY SERVICE AND OUTREACH

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### Scientific Peer-Reviewing

- Reviewed articles for:
  - ACM Inroads.
  - IEEE Transactions on Education.
  - ACM SIGCSE 2017, 2018, 2019 and 2020.
  - ACM ITiCSE 2017, 2018, 2019 and 2020.
- Associate Program Chair in ACM SIGCSE 2020.
- Associate Program Chair in ACM ITiCSE 2020.

### Outreach

- *Can everyone learn how to program?* An invited talk at the ACM Student Chapter at Princess Sumaya University for Technology, Amman, Jordan, August 24, 2019.
- Co-lead in the *Advanced Topics* summer professional development workshop for high school computer science teachers at Princeton University, August 2017.
- Faculty advisor for “*Codability*”: A series of summer camps for teaching K-12 school students problem solving and programming by undergraduate volunteers, 2014—2016.

### Student Activities

- HackPrinceton: Judge. April 2018.
- The Jordanian ACM Collegiate Programming Contest (JCPC): Judge. August 2015.
- The 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> ACM Programming Contest for the South of Jordan (AmmanCPC): *Organizer and Chief Judge*. November 2013, November 2014 and July 2015.
- The ACM Programming Contest for the North of Jordan (ArabellaCPC 2015): *Chief Judge*. April 2015.
- The National Jordanian Olympiad of Informatics for High School Students (JOI 2015): *Chief Judge*. April 2015.
- Princess Sumaya University for Technology Programming Contest (The Coding Marathon I & II): *Supervisor, Organizer and Judge*. May 2014 and May 2015.
- The 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> Programming Contests at the University of Sharjah: *Organizer and IT Specialist*, February 2007, 2008 and 2009.
- Faculty advisor for “*FikrSpace*”: A student club for debates at Princess Sumaya University for Technology, 2014—2016.
- Faculty advisor for the PSUT ACM Student Chapter (2014-2016).  
The chapter won the ACM “Outstanding Community Service” award in 2015/2016.