

# Ibrahim Albluwi

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## EDUCATION

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- October 2012     **PhD in Automatic Systems and Computer Science**  
Institut National des Sciences Appliquées (INSA), Toulouse, France.  
Research Lab: LAAS-CNRS, Toulouse, France.
- May 2009        **Master of Science in Computer Science**  
Sharjah University, Sharjah, United Arab Emirates (ranked 1<sup>st</sup> in the CS department).
- May 2006        **Bachelor of Science in Computer Science**  
Sharjah University, Sharjah, United Arab Emirates (ranked 1<sup>st</sup> in the CS department).

## EXPERIENCE

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- September 2022  
- Present        **Associate Professor**  
Computer Science Department, Princess Sumaya University for Technology, Jordan.
- September 2020  
- August 2022   **Assistant Professor**  
Computer Science Department, Princess Sumaya University for Technology, Jordan.
- September 2016  
- July 2020      **Lecturer**  
Computer Science Department, Princeton University, New Jersey, USA.
- Summer of 2019  
Summer of 2020   **Visiting Lecturer**  
Beijing Jiaotong University Global Summer School, Shanghai, China.
- Summer of 2020   **Visiting Lecturer**  
International Partnership of Education Research and Communication (IPERC) and  
Saint Louis University - iStar Online Program.
- February 2013  
- August 2016    **Assistant Professor**  
Computer Science Department, Princess Sumaya University for Technology,  
Amman, Jordan.
- 2006 - 2009      **Teaching Assistant**  
Computer Science Department, University of Sharjah, United Arab Emirates.
- Summer of 2005   **Research Intern**  
Software Metrics Lab, Department of Computer Science, Institute of Distributed  
Systems, Otto-von- Guericke University, Magdeburg, Germany.

## AWARDS

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### Teaching Awards

- March 2025       **Teaching Incentive Award.** Princess Sumaya University for Technology.  
Awarded biennially to select faculty based on demonstrated excellence in teaching.

July 2020	<b>Princeton Engineering Commendation List for Outstanding Teaching</b> for Spring 2020. Princeton University.
February 2020	<b>Excellence in Teaching Award</b> for the School of Engineering and Applied Science. Princeton University.
February 2019	<b>Excellence in Teaching Award</b> for the School of Engineering and Applied Science. Princeton University.
August 2016	<b>Excellent Teacher Award.</b> Princess Sumaya University for Technology. Awarded annually to one faculty member at the university.
<b>Student Awards</b>	
2009 - 2012	<b>PhD Scholarship.</b> LAAS-CNRS, Toulouse, France.
May 2006 and May 2009	<b>Certificate of Academic Excellence.</b> University of Sharjah. Awarded to students who graduate with a GPA higher than 3.6/4.0.
2006 - 2009	<b>Graduate Scholarship Award.</b> University of Sharjah. Awarded annually to 2 students in every college based on academic merit.
May 2006	<b>Academic Excellence Money Grant.</b> University of Sharjah. Awarded annually to the student with the highest GPA at every college.
May 2006	<b>BP's Self-Motivated Leader Award.</b> British Petroleum (BP), UAE. Awarded to one student at the University of Sharjah based on excellence in extra-curricular activities.
April 2002	<b>Excellent Student Award.</b> Ministry of Education, Sharjah, United Arab Emirates. Awarded based on academic and non-academic excellence in high school.

## PUBLICATIONS

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### Computing Education

- Albluwi, Ibrahim, Dennis Bouvier, Claus Brabrand, Michelle Craig, Rodrigo Duran, Christopher Hundhausen, Colleen Lewis, et al. “**Computing Education when Writing Code is No Longer the Challenge.**” To appear in the Communications of the ACM.
- Albluwi, Ibrahim, Dennis Bouvier, Claus Brabrand, Michelle Craig, Rodrigo Duran, Christopher Hundhausen, Kevin Lin, et al. “**Andy’s Axe’ as a Guiding Principle for our Stance on AI-in-Education (for Computing).**” To appear in the Dagstuhl Reports (Seminar 25311).
- Mak, Janice, Joyce Nakatumba-Nabende, Tony Clear, Alison Clear, Ibrahim Albluwi, Oana Andrei, Lorenzo Angeli et al. “**Navigating the ethical and societal impacts of generative AI in higher computing education.**” In 2025 Working Group Reports on Innovation and Technology in Computer Science Education, pp. 313-359. 2025.
- Ibrahim Albluwi, Raghda Hriez, Raymond Lister. “**Varying Program Input to Assess Code Reading Skills.**” ACM Transactions on Education 41, no.1 (2025): e13100.
- Umar Alkfaween, Ibrahim Albluwi, Paul Denny. “**Automating Autograding: Large Language Models as Test Suite Generators for Introductory Programming.**” Journal of Computer Assisted Learning (JCAL) 41, no. 1 (2024).
- Co-authored the **Digital Skills textbook and teacher guide** for grade 11 in the Jordanian national curriculum (2024).

- Prather, James, Paul Denny, Juho Leinonen, Brett A. Becker, Ibrahim Albluwi, Michael E. Caspersen, Michelle Craig et al. “**Transformed by transformers: Navigating the AI coding revolution for computing education: An ITiCSE working group conducted by humans.**” In *Proceedings of the 2023 Conference on Innovation and Technology in Computer Science Education V. 2*, pp. 561-562. 2023.
- 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 ITiCSE 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.

## RESEARCH GRANTS

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- "Towards a Framework for Teaching Dynamic Programming", 2026.  
An internal grant of \$3400 from Princess Sumaya University for Technology.

## TEACHING & ADVISING

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- Advised *many undergraduate projects* (1-semester and 2-semester long projects and theses) at Princeton University and at Princess Sumaya University for Technology.
- Served as an **academic advisor** at Princeton University for the School of Engineering and a **faculty fellow** for Butler College (Fall 2018 – Spring 2020).
- Taught and designed material for the following courses:

Semesters	Course	University
2016 - 2017 (3 semesters, INST)	Intro. to Computer Science	Princeton University
2018 - 2020 (5 semesters, INST)	Data Structures and Algorithms	
2013 - 2016 (7 semesters, INST) 2021 - 2025 (9 semesters, CI) 2020 (1 semester, EX)	Data Structures and Introduction to Algorithms	
2015 - 2026 (13 semesters, INST)	Design & Analysis of Algorithms	
2022 - 2026 (4 semesters, CI)	Design & Analysis of Algorithms (Ph.D)	
2025 (1 semester, CI)	Algorithms (M.Sc.)	
2020 - 2021 (2 semesters, INST)	OOP	Princess Sumaya University for Technology
2014 - 2021 (3 semesters, CI)	OOP Lab	
2015 (1 semester, INST) 2016 - 2023 (9 semesters, EX)	Structured Programming	
2013 - 2014 (3 semesters, CI)	Multimedia Systems	
2013 - 2014 (2 semesters, CI)	Data Mining & Machine Learning	
2025 - 2026 (2 semesters, CI) 2020 (1 semester, INST)	Intro. to Computer Science	
2013 - 2014 (3 semesters, INST)	Programming for Business Students	
Summer-2019	Intro. to Programming in Java	Beijing Jiaotong University
Summer-2019 Summer-2020	Introduction to Computer Science	
Summer-2020	Intro. to Computer Science in Python	IPERC and Saint Louis University

INST = Instructor, CI = Coordinator and Instructor, EX = Examiner

## COMMUNITY SERVICE

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### Scientific Peer-Reviewing

- Associate Editor for the ACM Transactions on Computing Education (June 2025 – present).
- Associate Program Chair:
  - ACM SIGCSE TS (2020 and 2022).
  - ACM ITiCSE (2020, 2021, 2022, 2025, 2026).
- Reviewed articles for:
  - ACM Inroads.
  - IEEE Transactions on Education.
  - IEEE Transactions on Learning Technologies.
  - ACM Transactions on Education.
  - JCAL: Journal of Computer Assisted Learning.
  - ACM SIGCSE TS 2017, 2018, 2019, 2023, 2024.
  - ACM ITiCSE 2017, 2018, 2019.

### Outreach and Invited Talks

- *Guest speaker in CSC389H5 - Computing Education Research, Winter 2026, University of Toronto at Mississauga, February 15, 2026.*
- *"Evaluating Code Reading Skills in Intro CS". Episode 3 of the podcast "Computing Education Things", hosted by Daniel Prol, a Ph.D. candidate at the University of Houston. June 21, 2025.*
- *"CodeCast - Episode #011". A 2-hour interview with the Software Engineering Club at Princess Sumaya University for Technology, Amman, Jordan, November 28, 2024.*
- *"Teaching and Learning in the Era of ChatGPT". An invited talk at Irbid University College, Irbid, Jordan, December 28, 2023.*
- *"How ChatGPT will make my job as a teacher more difficult". TEDxPSUT, Amman, Jordan, March 18, 2022.*
- *"New tools for automatic generation of code and how they can impact how we teach". An invited talk at Princess Sumaya University for Technology, Amman, Jordan, October 25, 2022.*
- Organized and led a Computing Education Research Reading Group at Princess Sumaya University, involving members from inside and outside the university. Spring 2022 – Fall 2022.
- *"Can everyone learn how to program?". An invited talk at Princess Sumaya University for Technology, Amman, Jordan, May 11, 2022.*
- *"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.

## Committees

Served in *many* committees at Princess Sumaya University for Technology across the department, college, and university levels. Most notably:

- Coordinated joint programs with the University of Indiana, the University of Michigan (Dearborn), and the University of Oakland (2015-2016).
- Coordinated the senior projects program at the computer science department (2015-2016).
- Member of the University Council for Quality Assurance and Accreditation (2021-2022).
- Head of the scientific research committee in the computer science department (2022 - 2023).
- Head of the curriculum committee in the computer science department (2023 - 2025).
- Member of a university-level committee studying the impact of Generative AI on education (2023).
- Member of the College Council (2023 - 2025) and the University Council (2024 - 2025).

## PROFESSIONAL COURSES & CERTIFICATION

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April 2013	<b>Training of Trainers (ToT)</b> . Business Development Center, Amman, Jordan. An intensive one-week course on teaching/training methods and course preparation techniques.
March 25 <sup>th</sup> - April 1 <sup>st</sup> 2011	<b>Interdisciplinary College IK2011</b> . Gesellschaft für Informatik e.V. (Wissenschaftszentrum) in Günne, Germany. A graduate level spring school on “Autonomy, Decisions and Free Will” discussed from three perspectives: Computer Science, Philosophy and Biology.
June 23 <sup>rd</sup> - July 4 <sup>th</sup> 2008	<b>9th Summer School on Image and Robotics</b> . LASMEA, IFMA and Blaise Pascal University in Clermont-Ferrand, France. A graduate level summer school on image processing and robotics.
January 2005	<b>Sun Certified Programmer</b> for the Java 2 Platform 1.4.