

## PERSONAL INFORMATION

### Bilal Nakhal

📍 Beirut, Lebanon

📞 +9613861899

✉ bilalnakhal@gmail.com, b.nakhal@bau.edu.lb

Sex Male | Date of birth 22/01/1985 | Nationality Lebanese



## WORK EXPERIENCE

Oct-2021 to Present

### Assistant Professor at the Department of Computer Science Beirut Arab University (Lebanon)

- Teaching various undergraduate and graduate Computer Science core courses
- Major contributor in applying and preparing ABET accreditation requirements
- Acting as a leader/contributor in several academic committees in the department
- Acting as a co-advisor for Computer Science PhD candidates
- Supervising Senior and Thesis projects for BS and MS Computer Science students
- Attending all internal and external activities identified by the upper management and faculty board (meetings with labour market and companies' representatives, competitions, workshops at Erasmus+ ELEGANT project)
- Working on various research fields (Virtual Reality, Metaverse, Cybersecurity, Federated Learning, and Blockchain) with colleagues and students

Jan-2019 to Sep-2021

### Acting Dean of Faculty of Sciences & Fine Arts Arts, Sciences and Technology University in Lebanon (Lebanon)

- Leading and coordinating strategic planning and curriculum development at the faculty
- Providing the faculty with its divisions with academic leadership to encourage excellence in executing the academic programs and research work
- Continuously planning and developing academic programs to ensure meaningful academic outcomes with intended high quality
- Managing activities at the faculty level within the framework of the university's strategic plan by effectively using available resources
- Supporting heads of departments in the faculty and holding them accountable for the proper discharge of their departmental responsibilities
- Assisting in the development of a compelling and inclusive vision for research

Jan-2012 to Sep-2021

### Chairperson/Coordinator of Computer Science Department Assistant Professor at Computer Science Department Arts, Sciences and Technology University in Lebanon (Lebanon)

- Leading and managing the Computer Science department among all branches
- Teaching Computer Science major courses and labs (12 courses per year)
- Developing the CS curriculum and offered courses
- Ensuring that teaching, curriculum and student outcomes are in line with high international standards
- Participating and managing administrative and organisational tasks
- Attending internal and external meetings identified by the upper management and faculty board
- Studying and processing academic profiles and petitions of students at all branches
- Supervising Senior projects and Thesis projects for Computer Science students

- 2007–2012 **Senior Web Developer**  
 Cyberbase Digital, Beirut (Lebanon)  
 - Building websites using XHTML, JavaScript, JQuery, XML, PHP and SQL  
 - Hosting and managing VPS servers  
 - Troubleshooting and support

## EDUCATION AND TRAINING

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- 2014–2017 **Ph.D. in Computer Science - Virtual Reality**  
 Docteur de l'Université de Bretagne Occidentale  
 École Nationale d'Ingénieurs de Brest – ENIB/CERV/LABSTICC, Brest (France)  
**Thesis:** Generation of Communicative Intentions for Virtual Agents in an Intelligent Virtual Environment
- 2006–2009 **Master of Science in Computer Science & Communication**  
 Arts, Sciences and Technology University in Lebanon, Beirut (Lebanon)  
**Thesis:** Meta-search Engine and Data Web-housing including the Challenging Technologies and Performance Tuning Techniques
- 2002–2005 **Bachelor of Science in Computer Sciences**  
 Arts, Sciences and Technology University in Lebanon, Beirut (Lebanon)

## ADDITIONAL INFORMATION

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- Publications**
- Al Najjar, M., Mahboub, R., Nakhal, B., & Gaber Ghanem, M. (2024). Exploring the Role of AI in Improving VAT Reporting Quality: Experimental Study in Emerging Markets. *Journal of Risk and Financial Management*, 17(11), 477.
  - Al Najjar, M., Gaber Ghanem, M., Mahboub, R., & Nakhal, B. (2024). The Role of Artificial Intelligence in Eliminating Accounting Errors. *Journal of Risk and Financial Management*, 17(8), 353.
  - Ghor, H. E., Daher, M., & Nakhal, B. (2024). A Novel Blockchain-Based Approach for Secure and Efficient Electronic Medical Record Sharing. *Algorithms in Advanced Artificial Intelligence: ICAAAI-2023*, 124.
  - El Ghor, H., & Nakhal, B. (2023). A Blockchain-Enabled Approach for Secure Data Sharing in 6G-based Internet of Things Networks. In *Wireless Networks: Cyber Security Threats and Countermeasures* (pp. 227-246). Cham: Springer International Publishing.
  - AFFARA, L. A., & NAKHAL, B. E. (2023). COMPUTER VISION AIDED HOTSPOT CREATION IN VIRTUAL ENVIRONMENTS. *Architecture and Planning Journal (APJ)*, 28(3), 5.
  - CHEHAB, A., & NAKHAL, B. (2023). EXPLORING VIRTUAL REALITY AS AN APPROACH TO RESURRECT DESTROYED HISTORICAL BUILDINGS-AN APPROACH TO REVIVE THE DESTROYED "EGG BUILDING" THROUGH VR. *Architecture and Planning Journal (APJ)*, 28(3), 17.
  - Querrec, R., Taoum, J., Nakhal, B., & Bevacqua, E. (2018, November). Model for verbal interaction between an embodied tutor and a learner in virtual environments. In *Proceedings of the 18th international conference on intelligent virtual agents* (pp. 197-202).
  - Nakhal, B., & Querrec, R. (2017, December). Cognitive embodied conversational agents in virtual learning environment. In *2017 29th International Conference on Microelectronics (ICM)* (pp. 1-4). IEEE.
  - Taoum, J., Nakhal, B., Bevacqua, E., & Querrec, R. (2016). A design proposition for interactive virtual tutors in an informed environment. In *Intelligent Virtual Agents: 16th International Conference, IVA 2016, Los Angeles, CA, USA, September 20–23, 2016, Proceedings 16* (pp. 341-350). Springer International Publishing.
  - Nakhal, B., Bevacqua, E., Said, B., & Querrec, R. (2016). Cognitive architecture for embodied conversational agent: Application on virtual learning environment. In *EDULEARN16 Proceedings* (pp. 4973-4983). IATED.
  - Nakhal, B., Bevacqua, E., Said, B., & Querrec, R. (2016). Intelligent Embodied Conversational Agents in Virtual Environments for Learning. *22nd International Scientific Conference of LAAS (LAAS22)*, Beirut, Lebanon, April, 2016

- Nakhal, B., Bevacqua, E., Said, B., & Querrec, R. (2015). Intelligent Embodied Conversational Agents in Virtual Environments. 21st International Science Conference (LAAS21), Beirut, Lebanon, April, 2015

## Projects

### **Web and Mobile Development:**

- Developing many projects and their Content Management Systems using Software Engineering documentation resources, HTML5, CSS, JavaScript, PHP and MySQL, with JQuery, AJAX, JSON and bilingual abilities
- Supervising projects that are built with UML modelling tools, HTML5, CSS, JavaScript, PHP, MySQL, ReactJS, React Native, NodeJS, Django Python, MongoDB, Flutter, Firebase, WordPress
- Hosting and Web Mastering websites

### **Virtual Reality and Augmented Reality:**

- Generation of Communicative Intentions for Virtual Agents in an Intelligent Virtual Environment: Virtual Reality, Artificial Intelligence, Embodied Conversational Agents, Intelligent Virtual Environment, Vocal and Textual Communication Skills
- Immersive Marketing Virtual Touring:  
Virtual tour application that can immerse and interact with users in a realistic virtual environment through several visual and interactive tools including augmented reality Head Mounted Displays
- Augmented Reality in Education:  
Smart application that aims to minimize the contents of books, integrate various rich resources (images, videos, 3D objects, interactive capabilities...), gather all resources through a mobile application that runs on various mobile platforms (Android and iOS) with user friendly interface for students at all levels and ages

### **JAVA:**

- Supervising Object-Oriented projects that are built using JavaFX and MySQL, such as Ticketing System, Bank System, University Management System

### **Supervising and reviewing various Thesis Projects and Research Fields:**

- Artificial Intelligent (AI)
- Intrusion Detection System (IDS)
- Cybersecurity
- Virtual and Augmented Reality smart tools and games
- Metaverse
- Internet of Things (IoT)
- Federated Learning
- Blockchain
- Big Data and Data Science
- Distributed systems JAVA applications

## PERSONAL SKILLS

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**Mother tongue(s)** English, Arabic

### **Job-related skills**

- **Programming and Database Courses and Labs:** Object-Oriented Programming concepts, Advanced Programming, Algorithms, Databases, Operating Systems, Networking, UML modelling, JAVA, C, C++, C#, HTML5, XHTML, JavaScript, ReactJS, CSS3, PHP, SQL
- **Virtual Reality and Augmented Reality projects and technologies:** Unity3d projects, Meta-modelling Systems, NAO, Oculus, HTC VIVE, CAVE
- **Web Development:** Hosting websites developed using HTML5, XHTML, CSS3, JavaScript, ReactJS, Django Python, JQuery, XML, PHP and SQL Databases
- **Cybersecurity:** Blockchain, Federated Learning, IoT

- **Artificial Intelligence:** Role of AI in improving solutions in various fields

- **Online Tutoring, Administrating and Managing work:** Instructing live-courses through various Virtual Learning Environments with interactive pedagogical techniques, using: Microsoft Teams, Google Classroom, Google Meet, Google Sheets and Forms, ZOOM, Moodle, Linear, Discord, Figma, MIRO...)

## REFERENCES

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- Prof. Ali El-Zaart Full professor at Beirut Arab University  
[elzaart@bau.edu.lb](mailto:elzaart@bau.edu.lb)  
+961370870956
- Prof. Hussein El Ghor Full professor at Lebanese University  
[hussein.elghor@gmail.com](mailto:hussein.elghor@gmail.com)  
+9613776556
- Dr. Abdallah El Shakik Associate professor at Beirut Arab University  
[a.alshakik@bau.edu.lb](mailto:a.alshakik@bau.edu.lb)  
+96171455955
- Dr. Khalil Mershad Assistant professor at Lebanese American University  
[khaleel.mershad@gmail.com](mailto:khaleel.mershad@gmail.com)  
+9613980245
- Dr. Bilal Said Senior Researcher & Project Manager - Softeam, Docaposte - Nantes, France  
[bilal.said@softeam.fr](mailto:bilal.said@softeam.fr)  
+33621143742