Assad Maalouf

Experienced Computer Science Professor and Certified Technocrat with a Ph.D. and 10+ Years of Industry Experience

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As an accomplished educator and astute technocrat, I bring over 15 years of experience excelling in teaching computer science courses, developing web and database applications, and creating reports. My doctoral research has equipped me with an exceptional understanding of static program analysis and programming languages' compilers. My technical skills are rooted in core technologies such as Java SE, Jakarta EE, Spring Framework, .NET, C#, ASP.NET, MS SQL Server, and Crystal Reports, complementing my ability to effectively impart complex technical concepts in an educational setting.

Summary

- I hold a Ph.D. in Computer Science, which stands as a testament to my academic proficiency and dedicated research pursuits. My contributions have been acknowledged in high-quality, peer-reviewed conferences and journals, underlining my prowess in academic research and scholarly communication.

- My doctoral research focuses on static program analysis and programming language compilers. Particularly in Java, this research has equipped me with strong capabilities in teaching Java programming, enabling me to effectively educate both novice and experienced Java programmers. Additionally, my expertise extends to web programming, object-oriented programming, algorithms, and data structures. I also possess an exceptional understanding of concurrent programming, design patterns, computer security, mobile device security, and the application of advanced programming languages. This comprehensive background not only enriches my research but also enhances my ability to impart complex programming concepts in an educational setting.

- As a Certified Technology Specialist, I possess extensive expertise in both web and desktop application development across the full technology stack. My proficiency includes advanced mastery of front-end technologies such as Ext JS and various JavaScript frameworks, as well as back-end technologies including RESTful APIs, web services, and microservices. I also excel in crafting complex SQL queries and stored procedures, a skill set honed through rigorous research and professional practice.

- I have a solid understanding of software development methodologies and processes, with hands-on experience managing all the phases of the project/program lifecycle. I have developed a strong grasp of requirements analysis, project scoping, planning, scheduling, and delivering robust technology solutions. I strictly adhere to time, budget, and quality parameters, ensuring optimum results.

- My role as an educator necessitates being an effective leader and team player, blending interpersonal and problem-solving skills with analytical and decision-making capabilities. This approach fosters a productive academic environment and facilitates the achievement of departmental objectives.

ACADEMICS

I have acquired a diverse range of degrees and certifications that have greatly influenced my knowledge and expertise. I started my academic journey by obtaining my Teaching Diploma in Science from the Lebanese University. Building on that, I pursued a Master of Science degree from Maharishi University of Management in Fairfield, Iowa. Subsequently, I completed my Doctorate degree from Oakland University in Rochester, Michigan, where I specialized in static program analysis of Java code.

Static program analysis, a cornerstone of cybersecurity—an increasingly vital field that addresses the growing challenges of protecting sensitive data, networks, and systems from cyber threats and attacks—is a specialized area within computer science. It is essential for ensuring the reliability and security of software by analyzing code without executing it, thus identifying potential vulnerabilities and errors efficiently. Static program analysis facilitates the automated discovery of vulnerabilities in software code, using formal methods and mathematics to verify the correctness of the code.

Throughout my academic journey, I have actively contributed to the field of computer science through research and publications. My focus has been on program analysis of Java code, with a particular emphasis on identifying and addressing security vulnerabilities in Android programs. The realm of program analysis is complex and theoretical, demanding a high level of expertise and dedication. However, I pride myself on my practical application of theoretical research, which showcases my ability to bridge the gap between abstract concepts and real-world challenges.

Education

- **Ph.D. in Computer Science**, Oakland University, Rochester, Michigan, 2021
- **Master of Science in Computer Science (MSCS)**, Maharishi University of Management, Fairfield, Iowa, 2014
- **Teaching Diploma in Science & Applied Mathematics (Maitrise)**, Lebanese University, Beirut, Lebanon, 2004

Professional Development

- **Honored Listee**, Marquis Who's Who, 2023
- **Microsoft Certified Technology Specialist (MCTS)**: .NET Framework Windows / Web Applications
- **SQL Server Advanced Database Courses**

WORK EXPERIENCE

Assistant Professor of Computer Science July 2021 – Present
Maharishi International University, Fairfield, IA

Currently, I am privileged to serve as an Assistant Professor of Computer Science at MIU, where I have the opportunity to impart my extensive knowledge and practical experience to educate and mentor aspiring computer scientists.

As an Assistant Professor at MIU, I actively contribute to the academic and personal development of COMPRO students. My teaching portfolio includes a wide range of courses, such as computer architecture, low-level programming, fundamental Java programming, modern programming practices and web programming. I also teach software engineering, DevOps, microservices, and CI/CD. Moreover, I am dedicated to serving as a student advisor, offering guidance and support to my advisees as they navigate their academic journeys.

At MIU, our approach to education follows a unique methodology known as Conscious-based Education. A key component of this methodology involves incorporating group meditation sessions into the curriculum, which serves various purposes, such as fostering a positive learning environment and nurturing a sense of connection among students and faculty.

In addition to my teaching responsibilities, I actively contribute to the academic community through participating in curriculum development and ensuring that MIU's computer science program remains up to date with industry trends and advancements. To ensure I stay at the forefront of the software development industry, I make a dedicated effort to remain up to date with the latest advancements. This commitment to professional growth drives me to attend conferences, participate in online forums, and engage in continuous learning. As a result, I can incorporate new techniques and technologies into my programming repertoire, enhancing the overall quality and innovation of my teaching practices.

I am enthusiastic about continuing to make meaningful contributions to the field of computer science and nurturing the growth of future professionals in the industry.

Graduate Assistant/Instructor May 2016 – April 2021
Oakland University, Rochester, MI

During my Ph.D., I focused on static program analysis and the detection of vulnerabilities in mobile applications. My research centers on cybersecurity and static program analysis—areas that require significant expertise. My primary goal was to enhance the security of mobile technologies, a cornerstone of our daily lives. Additionally, I have studied taint analysis, which aims to track paths in code where sensitive information might leak through a public sink. I have also examined command injection analysis, which investigates how unsanitized input could be executed with the same privileges as the host application. My contributions have been recognized in high-quality, peer-reviewed academic conferences and journals, underscoring my proficiency in research and scholarly communication.

Accomplishments:
- Secured a competitive grant from the Computer Science and Engineering (CSE) department at Oakland University to pursue a Ph.D. in Computer Science and Informatics.
- Concentrated on research in formal methods and static analysis of program code with an objective to identify security flaws and vulnerabilities in Android mobile application code.
- Helped teaching classes encompassing a range of topics such as compilers, algorithms, theory of computation, and programming languages.
- Maintained a deep knowledge of web technologies such as ASP.Net MVC5, WEB API 2.2, KnockoutJS 3.5, AngularJS 1.7, ExtJS 4, and Bootstrap 4, implementing them in various projects to achieve high-quality outcomes.
- Technologies used: Java SE, Android, C/C++, ASP.NET MVC, WEB API, C#,

Select Projects Include:
- FlowDroid_INT (Research Project): Developed an extension of FlowDroid for taint analysis of Android programs, incorporating an Interval analysis and an algorithm to enhance the taint propagation of arrays.
- FlowDroid_STR (Research Project): An extension of FlowDroid, this project builds on string analysis of Android programs to improve the semantics of taint propagation of string operations in FlowDroid.

Senior Software Engineer
In addition to my academic achievements, I have garnered significant professional experience as a software programmer. This hands-on experience has provided me with valuable insights into real-world software development practices and challenges, complementing my theoretical knowledge.

You-Team, Levallois-Perret, France Nov 2015 – Jan 2016

- Designed and rapidly developed a web project for GAN Assurance, an insurance company, to import and distribute daily tasks based on consultants' skills and profiles.
- Actively participated in the end-to-end development of the assigned project, strictly adhering to project delivery schedules and other Service Level Agreement (SLA) parameters.
- Provided assistance to team members in application development, while implementing best-practice development methodologies.
- Technologies utilized: ASP.NET MVC, WEB API, C#, LINQ, jQuery, JSON, CSS, HTML, MS SQL SERVER.

Imperial Premium Financing Services (PFS), Kansas City, USA Apr 2013 – Jan 2015

- Operated as an ASP.NET web programmer in an agile development environment, tasked with implementing new features and maintaining existing applications on the organization's website.
- Earned high ratings for consistently delivering quality products that surpassed client expectations, contributing significantly to enhancements and achieving growth objectives.
- Stayed current with technologies such as C#, ASP.Net, WCF, Ajax, JQuery, KnockoutJS, and AngularJS for effective application across project assignments.

Computer Sciences Corporation (CSC), Overland Park KS, USA Jan 2011 – Mar 2013

- Recognized for using advanced web development skills to redevelop the Banking website, meeting contractual requirements defined by CSC's clients and filling a pivotal role in the Banking team.
- Commended for the rare ability to develop across multiple languages and areas of expertise, including custom application development, website development, web services, reporting, and complex calculations.
- Regarded for proficiency in developing custom reports, a critical component of the Banking solution expected by CSC's clients.
- Acknowledged for comprehensive understanding of company processes/procedures, extensive knowledge of the WIC Banking System, and a significant role in the redevelopment of the Banking site.
- Involved in planning, design, development, and implementation of information solutions to address business opportunities. This included application/database design using various modeling tools and documentation methods.
- Technologies utilized: C#, ASP.Net, Ajax, JQuery, EXTJS, SQL Server, Oracle, Crystal Reports, Infragistics, MS Visual Studio, VB 6, VB.NET.

Relevant Experience

Organization	Designation	Duration
VeriPark, Dubai - United Arab Emirates	Senior. NET Developer	May 2015 – Jul 2015
SABA & Co Intellectual Property (IP), Beirut - Lebanon	ASP.NET Developer	Dec 2008 – Apr 2010
Regional Press Network, Beirut – Lebanon	ASP.NET Web Developer	Jul 2008 - Oct 2008
Entertainment To Mobile, Mansourieh, Beirut - Lebanon	Software Developer	Jan 2008 - May 2008
Self Employed, Beirut – Lebanon	Independent IT Trainer & Web Developer	May 2007 - Dec 2007
SABIS Educational Services, Adma – Lebanon	C# .NET and SQL Server Developer	Jun 2006 – Jun 2007
CTServ, Beirut – Lebanon	VB6 Developer	Nov 2005 - Feb 2006
Impact Media, Beirut – Lebanon	C# .NET Developer	May 2005 - Oct 2005

Technical Skills

- **Languages:** Java SE, Jakarta EE, Spring Framework, .Net, C#, ASP.Net, ASP.Net MVC, HTML5, JavaScript, jQuery, HTML/CSS, XML, XSL, VB6, VB.NET
- **Web:** Spring Cloud , Spring MVC, AJAX, Web Services, WCF Services, Web API, JSON, EXT JS, JSP, JSF, Servlets, ASP.Net MVC
- **Databases:** MySQL, PostgreSQL, Oracle, MongoDB, SQL Server, .Net Database Projects (Managed Database Objects)
- **Tools:** Git, GitHub, GitHub Actions, Docker, Kubernetes, Microsoft Azure, Crystal Reports, MS Visual Studio, VS Code, Eclipse, Netbeans, IntelliJ, Visual Source Safe, Visual Studio, SQL Server Management Studio.
- **Platforms:** Windows, Linux

Research Publications

Title	Journal/Conference	
Static Analysis of Android Programs for Malware Detection	Oakland University ProQuest Dissertations Publishing, 2021 Static Analysis of Android Programs for Malware Detection - ProQuest	05/2021
Taint Analysis of Arrays in Android Applications	The 36th ACM/SIGAPP Symposium on Applied Computing (SAC 21) *https://doi.org/10.1145/3412841.3441964*	03/2021
Precise Command Injection Analysis in Android Applications	ICMSS: 2021 the 5th International Conference on Management Engineering, Software Engineering and Service Sciences *https://doi.org/10.1145/3459012.3459013*	09/2020
Improving Taint Analysis of Android applications using Finite State Machines	International Journal of Information and Communication Engineering https://publications.waset.org/10011664/improving-taint-analysis-of-android-applications-using-finite-state-machines	09/2020
Automata-based String Analysis for Detecting Malware in Android Programs	International Journal of Information and Communication Engineering *https://publications.waset.org/10011645/automata-based-string-analysis-for-detecting-malware-in-android-programs*	09/2020

Youtube

Fluent in: English, French, Arabic | **References:** Available on Request