

Salma Wahwah

Contact

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Education

Master of Science in Engineering
(AI/ML Focus), with Distinction-
Arizona State University (ASU) - 2025

Bachelor of Science in Computer
Science, eq. B.S., University of
Toronto - 2005

Technical skills

Machine learning and AI, Python,
Scala, TensorFlow, PyTorch, Scikit-
learn, NumPy, Pandas, ASP.NET, C#,
ADO, AJAX, SQL, MongoDB, Vector
DBs, Firebase, HuggingFace, MVC,
LINQ, Entity Framework, Workflow
Foundation (WCF), Web Services, Rest
API, FastAPI, Flutter(Dart), Telerik
controls, HL7, .net Core, Xamarin,
Azure DevOps, Bootstrap, SSRS, SSIS,
IIS, ADFS, RabbitMQ, Microservices,
OAuth 2, OpenID Connect, BizTalk,
Dapper, Azure Maps, Umbraco,
DotNetNuke, WordPress, HTML5,
CSS3 (Sass), JavaScript, jQuery, XML,
AWS, Docker, CI/CD, GitHub

Certifications

Microsoft® Certified Technology
Specialist (MCTS): .NET Framework 4,
Web Applications Charter Member,
Data Access, Service Communication
Applications, Web Developer 4, SQL
Server 2008, Database Development,
Programming in HTML5 with
JavaScript and CSS3, Certified
ScrumMaster (CSM), ITIL

Summary of Qualifications

- Machine Learning Engineer / AI Architect with over 15 years of software development experience and a Master's degree in engineering (AI/ML focus). Proven expertise delivering production-grade ML systems with a strong foundation in both NLP and computer vision.
- Skilled in leading cross-functional teams to design, prototype, and deploy intelligent product features using state-of-the-art models (YOLOv11, OWL-ViT, BLIP, transformers). Experienced with scalable ML architectures and pipelines leveraging PyTorch, TensorFlow, Scikit-learn, and Azure AI services.
- Demonstrated success in transforming complex AI research into real-world applications built assistive tech for the visually impaired, developed music genre classifiers, and launched NLP-driven tools for content generation. Known for combining deep technical execution with strategic collaboration across engineering, product, and design teams.
- Expertise in AI/ML: Supervised & unsupervised learning, reinforcement learning, RNNs, CNNs, deep learning, transformers, NLPs, computer vision and feature engineering.
- Experience with Hugging Face Transformers, prompt engineering, LLM fine-tuning (e.g., LLaMA, Gemini, GPT), and retrieval-augmented generation (RAG) pipelines.
- Leadership & Collaboration: Led developer/QA teams, mentored engineers, and delivered high quality solutions in production environments.
- Strong problem-solving skills: Experience designing, optimizing ML models, working with large datasets, and integrating AI into real-world applications.

Professional & Academic AI/ML Projects

- Blind Assistance App (Master's Project): Built a cross-platform mobile app using Flutter (Dart), FastAPI and the following ML models: OWL- ViT and Yolo 11 for object detection and BLIP for scene descriptions— integrated text-to-speech and speech-to-text for voice-based interactions.
- Music Genre Classifier – Trained a CNN on Mel spectrograms\ feature extraction to classify music genres with TensorFlow/Keras.
- AI Cover Letter Generator: Developed an NLP-powered tool using Google Gemini API to generate personalized cover letters. As well as build a medical Chat using Llama 2.

Work and Related Experience

Sr. Software Engineer Lead/Architect

2019 – Present

Court Technology Service

Phoenix, Arizona

- Developed AI-powered applications using Azure OpenAI Studio, AI Search, and Semantic Kernel.
- Design and build software applications using Microservices, RabbitMQ, API, Entity Framework, jQuery, SQL Server, Identity Server, and OAUTH2.
- Build Maricopa County SSO using OAuth 2 with OpenID Connect.
- Designing and developing GRP, Judicial certification applications using .Net core, Entity Framework, jQuery, Ajax, Bootstrap, SQL Server, and SSRS.
- Played a key role in designing/developing initial appearance, search warrant, and Commissioner Recruitment using MVC .Net Core, SQL Server, jQuery, Ajax, and SSRS.
- Upgraded the superior court website to use Umbraco CMS.

Sr. Net Web Developer

(Contract) 2018 – 2019

NYC Campaign Finance Board

Manhattan, New York

- Design and develop an identity server using Identity Server 4, OAuth2, Open ID Connect core 2, Entity Framework, jQuery, Ajax, and Bootstrap.
- Designing and developing web API to connect through identity server.
- Building a voter registration guide using MVC, Ajax, SQL server, bootstrap, and CSS.
- Helped the business analyst team establish new processes that helped them track project deadlines using TFS.

Team lead / Sr. Web developer

2015 - 2018

Cancer Care Ontario (CCO)

Toronto, Ontario

- Developing and providing architecture design for WTIS. Technologies involved included MVC C#, AJAX, Web API, SQL Server, HTML, SCSS, CSS3, jQuery, and JavaScript.
- Managing teams of developers and QA on multi-million-dollar projects like the Wait Times Information System (WTIS) used by provincial healthcare providers.
- Mentoring, providing training, and working on the personal development of each team member.
- Hiring developers for different groups.
- Planning personal development, doing performance reviews, and helping team members grow.
- Working with directors and VP on improving employee engagement.
- Resolving conflicts, managing stakeholder relations, removing road blockers, and delivering products on time.
- Coordinating team day-to-day work (Scrum master), distributing tasks, managing releases
- Planned development cycles, improved the development process, and coordinated project development with internal and external partners.

Web Developer / Web Administrator

2013-2015

Technical Standards and Safety Authority

Toronto, Ontario

- Coordinated a project to migrate all TSSA websites to a single new hosting provider. This involved writing an RFP, evaluating proposals, managing vendors, and testing systems.
- Developed several mobile applications using ASP.NET, MVC, jQuery, and Bootstrap to facilitate various TSSA internal business processes.
- Designed and developed a new internal communications website (iConnect) using DNN. This involved requirement gathering with involved business units, system integration to achieve single sign-on, and programming of customizations to satisfy UI expectations.
- Played a crucial role in enhancing the relationship between Information Services and other TSSA departments.

Web Developer

2005 -2013

Whitecap Canada Inc.

Toronto, Ontario

- Played a significant role in design and development work involving MyHydroEye, an essential web-based SaaS product for the company. MyHydroEye is used by electrical utilities to inform consumers about their electricity usage. Technologies involved included ASP.NET, WCF, AJAX, SQL Server, MVC, Entity Framework, LINQ, HTML5, CSS3/CSS2, Telerik, jQuery, and JavaScript. Also worked on web development projects for various clients, including the Canadian Cancer Society, Miele Canada, GlaxoSmithKline, Mutual Fund Dealers Association (MFDA), and Park 'N Fly.

Publication and Research

Wahwah, S., et al. (2025). "My Eye AI: Object Detection System Using YOLO, OWL-ViT, and BLIP", IEEE International Symposium on Autonomous Decentralized Systems (ISADS 2025), part of CISOSE 2025. Presented a cross-platform assistive system combining multimodal ML models for contextual awareness. Demonstrated real-time scene description, object detection, and voice interaction capabilities in real-world environments.

Honors & Achievements

- Tau Beta Pi Honor Society – Recognized for academic excellence and leadership in engineering.

Volunteer Activities

The Sierra Mentoring Partnership

November 2013 – 2015

Helping skilled immigrants build their professional networks, job search strategies and understanding the Canadian context of their profession and workplace culture.