

Stephen Y. Hwang

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Technical certifications

AWS Certified Solutions Architect (Associate)

MongoDB Database Administrator

MongoDB Developer (Associate)

Skills

Programming languages	Python, R/Shiny, JavaScript, SQL, Perl
Databases	MongoDB, MySQL, Postgres, BigQuery, BigTable, Snowflake, Redshift, EMR
Data engineering	Kafka, Cloud Composer (Airflow), Google Dataproc (Spark), Pub/Sub, SNS/SQS
Data sharing	FastAPI, Flask, Google Looker (Data Studio), Tableau, ggplot, matplotlib, Prometheus
DevOps	Git, Docker, Kubernetes, MLflow, CI/CD, Infrastructure-as-code (Terraform, CloudFormation)

Professional Experience

Solutions Architect, Applied AI/ML	Research Triangle Institute, RTP, NC	Jul 2023 - present
<ul style="list-style-type: none">Architected and deployed retrieval augment generation (RAG) framework leveraged across domain-specific applicationsImplemented and fine-tuned Chain of Thought (CoT) prompting strategies in large language models (LLMs), optimizing intermediate reasoning steps through backpropagation and reinforcement learningDeveloped hybrid search solutions combining full-text Lucene search with vector search to improve information retrievalDesigned and implemented event-driven ETL/ELT pipelines to extract business value from proprietary dataDesigned and built FastAPI interfaces to connect modular components within a data platformContainerized applications with Docker and orchestrated real-time streaming workflows using KafkaLed development of LLM-powered chatbots with memory management in compliance with data security requirementsDeveloped proof-of-concept demos, prototypes, and AI solution blueprints tailored to customer needsProvided technical enablement around hybrid search		
Enterprise Solutions Architect, Presales	MongoDB, New York, NY	Jan 2022 - Jul 2023
<ul style="list-style-type: none">Partnered with sales teams to identify and increase workloads for enterprise customers in healthcare and financial servicesDesigned scalable, event-driven solutions to meet business requirements for digital payments, consumer lending, and the management of electronic health records and biometric dataAdvised customers on best practices in data modeling, distributed computing, and event-driven architecturesProvided technical enablement, delivered tailored demonstrations, and built proof-of-concepts for technical validation		
Senior Bioinformatics Data Scientist	Research Triangle Institute, RTP, NC	Jun 2015 - Jan 2022
<ul style="list-style-type: none">Led multiple cross-institutional teams of analysts and software developers as technical lead and project managerDesigned and implemented a scalable cloud-based framework to support event-driven bioinformatics workflowsDeveloped and optimized ETL pipelines to ingest, process, and integrate multimodal biological and clinical data, enabling reproducibility and improving data accessibility and downstream analytics.Designed and built interactive dashboards to enable data-driven decision-making for critical stakeholdersInterfaced with non-technical stakeholders to identify business needs and requirements		
Data Engineer	Oncotect, Raleigh, NC	Jan 2021 - Jan 2022
<ul style="list-style-type: none">Designed and built event-driven pipelines to extract, transform and ingest experimental biomedical data		
Bioinformatics Data Scientist	Johns Hopkins Medical Institutions, Baltimore, MD	Oct 2011 - Jun 2015
<ul style="list-style-type: none">Lead development team on Stand Up 2 Cancer Epigenetics Dream Team (https://www.su2c.org/)Developed event-driven pipelines to aggregate, process, and enable consumption of public health and genomic data		

Education

Johns Hopkins University , Whiting School of Engineering	M.S. Bioinformatics, Aug 2013	Baltimore, MD
Loyola University	B.S., Bioinformatics, May 2011	Chicago, IL