LUAT (LUKE) NGUYEN

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CORE COMPETENCIES

- **Scientific Data Management –** Expertise in handling large-scale scientific datasets, ensuring data integrity, consistency, and accessibility.
- **Advanced Data Analysis** – Develop and implement analytical models and pipelines to support research and development.
- **Software Development** – Design and deploy custom tools and platforms to enhance data capture, processing, and analysis.
- **Stakeholder Engagement** – Trusted advisor to senior leadership and cross-functional teams, driving alignment and operational efficiency.
- **AI/ML & Data Analytics** – Expertise in AI/ML tools, data pipelines, and automated workflows to generate insights and drive business value.
- **Product Management & Strategy** – Lead end-to-end product lifecycle using agile methodologies to drive digital innovation and business impact.

WORK EXPERIENCE

September 2024 - March 2025
Senior Infrastructure Engineer (4D Molecular Therapeutics, Emeryville, CA) • Contract
Reporting to the Head of IT Infrastructure, Operations, and Security:

- Partnered with senior leadership to align IT infrastructure and data management strategies with R&D and clinical manufacturing objectives.
- Spearheaded a vulnerability management process to strengthen research data security and enhance operational efficiency.
- Managed the deployment and integration of on-prem and SaaS-based solutions to enhance scalability, data integrity, and business continuity.
- Led cross-functional teams to implement security network segmentation, strengthening the protection of lab (GxP and non-GxP) environments and ensuring secure, real-time access to data.
- Acted as the primary liaison for R&D IT operations, collaborating with stakeholders to resolve issues and optimize performance.

January 22 – March 2024
Senior Specialist, Product Analyst, Technical Product Management (Merck, South San Francisco, CA)

- Defined and executed a strategic roadmap for on-prem and SaaS-based product models, aligning with Merck Research Laboratory's (MRL) global strategy.
- Led technology roadmaps for systems integration, solution design, and operational strategy to support site-wide infrastructure and enhance scalability and efficiency.
- Led the initial product analysis for the **eROP (enhanced Research Operation Plan)** as part of a data-driven AI/ML acceleration program, earning an INSPIRE Award for driving innovation.
- Streamlined system image and software deployment, reducing manual effort and improving operational efficiency.
- Received 25 INSPIRE awards (2017 - 2024) for contributions to strategy, cross-functional collaboration, innovation, and leadership.

October 17 – December 2021
Senior Specialist, Business/Tech Analysis, Discovery Research IT (Merck, South San Francisco, CA)

- Served as the sole on-site **Merck IT lead** for a newly built **nine-story research facility**, driving the development and execution of business-aligned IT strategies, site policies, and best practices.
- Delivered IT support for site relocations, infrastructure upgrades, decommissioning activities, and data management (compute, storage, backup), ensuring compliance with security best practices.
- Empowered users by developing and maintaining knowledge base articles, user guides, and training materials, driving adoption and innovation.
- Partnered with cross-functional IT teams and business stakeholders to gather requirements and deliver tailored IT solutions that enhanced user productivity and supported business growth.
- Developed SQL queries and dashboards for data validation, registration, and usage pattern analysis.
- Led the design and deployment of a cloud-based application to centralize research equipment management using Microsoft SharePoint, Teams, and Power Automate, improving data visibility and operational efficiency.
- Contributed to the South San Francisco MRL Extended Leadership Team (XLT), fostering a unified site culture and strengthening enterprise-wide leadership.

March 14 – February 17
Senior Business Analyst, Drug Discovery Systems (Pfizer/Medivation, San Francisco, CA)
Served as go-to person driving strategic IT partnerships in Research, Informatics, and AI/ML

- Spearheaded technology and business convergence through comprehensive planning, innovative solution design, and forward-thinking strategies that drove excellence.
- Shielded end user devices and data with robust security measures, including encryption and access controls, fostering trust and reliability.
- Led and coordinated projects from initiation through deployment
  - Served as BA for in-house database-driven (agile) application development and COTS deployment. Recognized for IT Excellence & Innovation enterprise application development.
  - Coordinated the support for the Next Generation Sequencing (NGS) environment. Ensured compliance with regulatory requirements and industry best practices.

May 11 – February 13
Informatics Associate, Project Management (Evotec, South San Francisco, CA)

- Led Research IT and informatics engineering, developing scalable data pipelines, ETL processes, and automated workflows to support scientific research.
- Designed and implemented custom database queries, ETL processes, and a web application, improving data accessibility and user experience.
- Ensured high-quality data management through rigorous QC and analysis, enhancing sample management and application performance.

September 03 – June 09
Computational Research Specialist, Modeling & Informatics (VM Discovery, Inc., Fremont, CA)

- Generated data-driven insights to advance small molecule therapy research, enabling informed decision-making.
- Co-authored patents US8586619B2 and US61/120,827 for first-in-class drug discovery programs.
- Contributed to the successful exit of the TrkA program to Purdue Pharma for up to $213 million and secured $2 million in NIH grants for the PKC Epsilon program, accelerating innovation and growth.

February 02 – February 03
Research Scientist, Membrane Biology (Proteomic Systems, Inc., Sunnyvale, CA)

- Designed and conducted fluorescence-based assays to validate and optimize micro-arrayed MembraneChip technology (Patent US6699719B2).
- Planned and executed complex experiments, analyzing data to enhance MembraneChip performance and inform platform improvements.
- Collaborated with cross-functional teams to resolve technical issues and refine assay protocols.
- Contributed to a peer-reviewed publication by providing key data insights and experimental analysis.

February 00 - October 01
Research Scientist, Computational Modeling/Chemistry (ArQule, Inc., Menlo Park, CA)

- Designed and implemented informatics solutions, leveraging data mining and algorithm development to enhance ADMET (Absorption, Distribution, Metabolism, Elimination) predictive models.
- Developed machine learning-based predictive models for ADMET data, improving model accuracy and decision-making.
- Created molecular descriptors to refine model performance and enhance interpretability.
- Integrated new methods into MOE (Molecular Operating Environment) software, automating complex data analysis and reducing manual errors through streamlined workflows.
- Built interactive data visualization tools and dashboards to support real-time analysis, facilitating data exploration and informed decision-making.

EDUCATION

B.S. in Biochemistry/Chemistry - University of California, San Diego (Revelle College), 1999
Area of Focus Requirement: Economics & Computer Science

UCSD Computer Science Coursework:

- Introduction to Computer Science (C++)
- Basic Data Structures and Object-Oriented Design (C++)
- Introduction to Discrete Mathematics
- Mathematics for Algorithm and Systems
- Computer Organization and Systems Programming (Assembly Language)
- Advanced Data Structures (C++)
- Introduction to Artificial Intelligence: Search and Reasoning (Common Lisp)
- Chemistry & Computer Programming (C++)

MOOC Coursework/Certificates:

- Introduction to Responsible AI, Google, Coursera
- Introduction to Large Language Models, Google, Coursera
- Introduction to Generative AI, Google, Coursera
- Advanced React, Meta, Coursera
- Programming with JavaScript, Meta, Coursera
- HTML and CSS in depth, Meta, Coursera
- Introduction to Front-End Development, Meta, Coursera
- Introduction to Back-End Development, Meta, Coursera
- Introduction to Mobile Development, Meta, Coursera
- AWS Fundamentals: Addressing Security Risk, Amazon Web Services (AWS), Coursera
- AWS Fundamentals: Going Cloud-Native, Amazon Web Services (AWS), Coursera
- AI For Everyone, deeplearning.ai, Coursera
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization, Coursera
- Neural Networks and Deep Learning, deeplearning.ai, Coursera
- Drug Discovery, University of California - San Diego, Coursera
- Drug Development, University of California - San Diego, Coursera
- Making Biologic Medicine for Patients: The Principles of Biopharm. Manufacturing, MIT, edX
- Command Line Tools for Genomic Data Science, Johns Hopkins University, Coursera
- Python for Genomic Data Science, Johns Hopkins University, Coursera
- Introduction to Genomic Technologies, Johns Hopkins University, Coursera
- Machine Learning With Big Data, University of California - San Diego, Coursera
- Graph Analytics for Big Data, University of California - San Diego, Coursera
- Introduction to Big Data Analytics, University of California - San Diego, Coursera
- Hadoop Platform and Application Framework, University of California - San Diego, Coursera
- Introduction to Big Data, University of California - San Diego, Coursera
- Scalable Machine Learning, University of California - Berkeley, edX (Python/Spark)
- Introduction to Big Data with Apache Spark, University of California - Berkeley, edX (Python/Spark)
- Machine Learning (Octave), Stanford University, Coursera