

Y E O K I M H W A N G

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Bioengineering professional with a track record of leading cross-functional R&D, securing competitive funding, and translating complex technical insights into strategic outcomes. Experienced across healthcare technology, data analytics, product development, and global health programs spanning the United States, Singapore, and East Africa. Adept at bridging technical execution with business strategy, stakeholder engagement, and regulatory navigation.

EDUCATION

- Johns Hopkins University** | MSE, Bioengineering Innovation & Design Aug 2022 – May 2024
Key Coursework: Strategic Management (A) • Precision Medicine Data Analysis (A+) • Biomedical Data Science • Computer Vision • Entrepreneurial Finance • Evidence Generation for Medical Device Innovation
- UC Berkeley** | BS, Bioengineering (High Honors) (GPA 3.96, Dean's List) Aug 2020 – May 2022
Departmental Citation (Top Graduate) • Tau Beta Pi Engineering Honor Society
- Santa Monica College** | AA, General Science & AS, Mathematics (Highest Honors) (GPA 4.00) 2018 – 2020
- Hwa Chong Institution, Singapore** | GCE A-Levels, 85 Rank Points

PROFESSIONAL EXPERIENCE

- Global Health Advisor (Pro Bono)** | *AIRS Oxygen Infrastructure Project, The Gambia* 2025
- Provided independent advisory support for a USD 5.5M medical oxygen delivery and solar energy infrastructure initiative across West Africa (The Gambia, Liberia, Sierra Leone), a collaboration between Johns Hopkins, SCCM, and Direct Relief.
- Head of Research & Development** | *Ekyaaloo Diagnostics, Maryland* Apr 2023 – Aug 2024
- Led end-to-end strategy and execution of an AI-powered digital pathology platform integrating smartphones, microscopes, and machine learning to interpret fine needle aspiration (FNA) biopsy samples for point-of-care breast cancer diagnosis in low-resource settings.
 - Secured USD 265K in competitive funding from the American Cancer Society through development of technical and commercial grant proposals, demonstrating business case development and stakeholder persuasion.
 - Prepared FDA pre-submission documentation and regulatory strategy for a novel Class II medical device, synthesizing clinical, technical, and market evidence into a regulatory roadmap.
 - Planned and executed a multi-institutional usability research study across three sites in Uganda, translating user insights into product and go-to-market strategy refinements.
 - Designed front-end and back-end of the software prototype in collaboration with an AI engineer, app designer, and pathologist; developed computer vision model achieving 90+% diagnostic accuracy.
- Global Market Access Strategist (Intern)** | *Ocular Therapeutix, Boston* Apr 2023 – Nov 2023
- Conducted market landscape analysis for ophthalmic drug delivery in emerging markets, evaluating competitive positioning and pricing strategy opportunities.
 - Initiated strategic engagement with executive leadership at Aravind Eye Hospital, developing international clinical partnership and market entry proposals.
- MedTech Consultant (Independent)** | *Confidential Client, USA* 2023
- Assessed technical and clinical feasibility of a novel ultrasound microbubble technology for detection and removal of blood clots in atherosclerosis, evaluating the viability of ultrasound-triggered bubble cavitation as a therapeutic mechanism.
- Bioengineering Design Instructor** | *Johns Hopkins University, Maryland* Aug 2022 – May 2024
- Delivered instruction across undergraduate, graduate, and professional bioengineering courses for 50+ students; awarded Most Outstanding Teaching Assistant.
 - Mentored multidisciplinary teams on medical device projects spanning pediatric monitoring, digital pathology, and biopsy instrumentation—guiding teams from needs identification through prototyping and business case development.
 - Co-developed and led global health field curriculum with clinical immersion and healthcare systems research across Uganda and Kenya, managing multi-stakeholder coordination with clinicians, NGOs, and academic partners.
- Hardware Systems Engineer** | *Mosaic Consulting, Berkeley* Mar 2022 – Jun 2022
- Improved manufacturing assembly efficiency by 20% through systematic testing, validation, and optimization of diagnostic hardware prototypes, delivering data-driven process improvement recommendations.

Senior IT Consultant | UC Berkeley, Berkeley

Aug 2020 – Mar 2022

- Delivered frontline technical support across enterprise IT systems; promoted from IT Consultant to Senior IT Consultant in recognition of leadership and expanded responsibilities.
- Initiated workflow optimization and data tracking improvements, increasing team operational efficiency by 20%.

RESEARCH & PUBLICATIONS

Women's Health Research Fellow | Johns Hopkins CBID, Baltimore

Jun 2022 – May 2023

- Led collaborative research on women's health equity across institutions in the US and Uganda on a fully-funded fellowship.
- Published multiple peer-reviewed papers in biomedical engineering and global public health (ORCID: 0000-0001-8849-1534).
- Initiated the CBID Women's Health Initiative: drafted strategic plan, created project management infrastructure, and led first meetings with clinical advisors.

Nanoparticle Research Engineer | Berkeley Imaging Systems Lab, Berkeley

Aug 2021 – May 2022

- Established feasibility of applying magnetic nanoparticles for minimally invasive continuous glucose monitoring; characterized and published novel nanoparticle properties.

Select Publications: *IEEE Pulse* (2024), "Navigating Breast Cancer Innovation in Uganda" • *JCTS / Translational Science* (2023), "Uganda-based Survey of Challenges in Breast Cancer Detection in LMICs"

LEADERSHIP

Lieutenant | Singapore Armed Forces, Guards Formation

Feb 2016 – May 2017

- Led and trained 40+ personnel in operational planning and execution; achieved 100% platoon graduation rate.

Co-Founder & President | Southeast Asian Cultural Club, Santa Monica College

- Founded a thriving Southeast Asian community that continues to operate today.

SKILLS & CERTIFICATIONS

Data & Technology: AI / Machine Learning • Computer Vision • Data Analytics & Statistical Analysis • Predictive Modelling • Python • MATLAB • MS Excel & PowerPoint

Strategy & Operations: Strategic Planning • Market Analysis • Business Case Development • Project & Program Management • Cross-Functional Collaboration • Stakeholder Management • Grant Writing • Agile

Healthcare & Life Sciences: MedTech • Biotechnology • Regulatory Affairs (FDA) • Clinical & Translational Research • Digital Health • Global Health • Health Innovation

Languages: English (Fluent) • Mandarin Chinese (Native/Bilingual) • Bahasa Indonesia/Malay (Basic) • Spanish (Basic)

Certifications: Professional Scrum Master I • Google Project Management • Business Analytics with Excel • Lean Startup Principles for the Social Sector • Epidemiology in Public Health Practice • Nonprofit Fundraising Essentials • Business Models for Social Enterprise • Systems Thinking in Public Health

AWARDS & HONORS

Bioengineering Departmental Citation, UC Berkeley (Top Graduate) • Most Outstanding Teaching Assistant, Johns Hopkins • Abell Foundation Fellowship • Map the Systems 2024 Winner (Inaugural JHU Competition) • Tau Beta Pi National Engineering Honor Society • Alpha Gamma Sigma Honor Society