

**Ilya Goldberg, PhD**

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## Summary

A leader and mentor of interdisciplinary teams for over 20 years at the intersection of AI/ML, life science, imaging, data science and computing. A repeat innovator in the life science imaging field, active since its earliest days, contributing software, scientific discoveries, and developing innovative products, often the first of their kind.

## Skills

• Project management & team leadership. • Interdisciplinary technical communication. • Life science assay development. • Software development in regulated environments: QMS, SaMD, ISO9001, ISO13485. • AI/ML design, training & applications. • Data modeling & database design. • API design & development. • Back-end design & server architecture. • Cloud & distributed computing. • UNIX/Linux, DevOps, ML ops. • Numpy, Scikit-learn, Tensorflow, huggingface. • Python, C/C++, SQL, XML/HTML, JS/TS.

## Education

Ph.D. in Cell Biology, Johns Hopkins University School of Medicine, Baltimore MD.

**Sep 1990 - Jan 1997**

Bachelor of Science in Biochemistry, University of Wisconsin-Madison, Madison WI.

**Sep 1985 - Jun 1990**

## Work Experience

### Consultant, IGGtec - Seattle, WA

**Oct 2025 - Present**

- Technology & AI/ML consulting for life science organizations, life science consulting for technology companies.
- Serving on scientific advisory boards, discrete technical projects, proposal and grant development.

### Chief Science Officer, ViQi Inc - Seattle, WA

**Aug 2019 - Oct 2025**

- Led development of ViQi's flagship product AVIA, which quantifies viral infectivity using AI analysis of brightfield images. Concept through product-market fit and commercialization. Raised \$3M in NSF SBIR grants and matching funds.
- Led development of AutoHCS, an automated image analysis system for phenotypic profiling in High Content Screening. Developed product through concept and prototyping, to initial iterations of product-market fit, including first commercial uses.

### Co-Founder and CTO, Mindshare Medical (now Reveal-Dx) - Seattle, WA

**Sep 2016 - Aug 2019**

- Developed ML techniques to quantify lung cancer risk from lung nodules identified in low-dose CT scans
- Led development of RevealAI-Lung - a Software as a Medical Device (SaMD) allowing interactive AI-based characterization of lung nodules identified with existing commercial radiology viewers.
- Technical and clinical study lead for obtaining European regulatory clearance for clinical use of RevealAI-Lung (CE Mark, Class IIb). First-of-its-kind AI-based medical device used as a diagnostic aid in CT radiology.

### Section Head, National Institute on Aging, NIH/IRP - Baltimore, MD

**Feb 2002 - Dec 2016**

- Led interdisciplinary team of biologists, computer scientists, and mathematicians to develop AI/ML techniques for analyzing imagery from microscopy and radiology, and validate AI findings in the lab.
- Pioneered AI/ML techniques for analyzing brightfield microscopy images.
- Using AI-based analysis of images, discovered that physiological aging in *C. elegans* is discontinuous, characterized by stable states and regulated transitions. Validated that the aging transitions seen in the pharynx using ML correlate with transitions in the whole organism's transcriptome.
- Developed an ML technique to synthesize a physiological aging rate (PAR) for humans from hundreds of quantitative clinical measurements. Showed that PAR is a significant predictor of survival, stable across time, is genetically heritable, and is significantly associated with a telomerase gene.
- Showed that ML can be used to interpret imagery from histopathology and radiology to quantify physiological age and characterize diseases, including melanoma, lymphoma, prostate cancer, and osteoarthritis.

### Postdoctoral Fellow, MIT / ICCB - Cambridge MA

**Feb 1999 - Feb 2002**

- Co-founded OME (<https://openmicroscopy.org>). The first data model and software infrastructure to support image management and analysis for High Content Screening (HCS). OME XML is an industry-standard for interoperability in life science microscopy.
- Implemented initial full software stack for OME analysis use-cases in 5-D microscopy and HCS.

### Postdoctoral Fellow, Harvard University - Cambridge, MA

**Feb 1997 - Feb 1999**

- Design, expression & purification of synthetic virus-like particles based on Polyomavirus capsids.
- Contributed to solving atomic structure of Papillomavirus capsid and studies of Polyomavirus infectivity pathways.