

# CHANG HO YOON



## CURRENT PROJECTS

### Chief Medical Officer at [NEX Health Intelligence](#) since 2022

Startup using a multimodal AI-based infection prevention platform

- Won British Infection Association grant to validate AI models at Guy's & St. Thomas' Hospital, London
- Cross-functional collaboration with epidemiologists, software developers, UX designers, C-suite, health economists
- Navigating regulation for digital health tools and AI in UK, Europe, USA
- Epic & Cerner integration

### AI & ML research, resource-abundant settings

Leading 4 international collaborations:

- Oxford, Auckland - analysis of clinic data using Large Language Models
- Oxford, Oslo, Karolinska - validation of machine learning-derived sepsis phenotypes
- Oxford, MIT - improvement of stroke risk calculators using causal inference & machine learning
- Oxford, Charité Berlin - multiomic differentiation of viral & bacterial pneumonias

### AI & ML research, resource-constrained settings

Leading the AI & data analytics arm

- Won 2nd prize (£600,000) [Trinity-MIT Challenge on Antimicrobial Resistance](#)
- Collaborating with Public Health India, LSHTM, Cambridge, & iKure to track and improve antimicrobial use in under-resourced communities in India

### AI in law

- Co-creating an educational resource on AI implementation in legal practice with barrister [Paul Bonner Hughes](#)



## EDUCATION

2023  
|  
2020

### DPhil (PhD), Biostatistics & Biomedical Sciences

University of Oxford  
Wellcome Trust & [Turing Institute](#) Scholar

Oxford, UK

- Thesis: "Application of statistical & AI methods in electronic health records to estimate the impact of antibiotic resistance"
- R, PyTorch, TensorFlow, SQL
- Developed ML/AI-based survival modelling for use in Real-World Evidence (e.g., drug response studies)
- Applied causal inference & deep learning models incl. natural language processing
- Annual travel grants to talk at ML for Healthcare, European Society of Clinical Microbiology & Infectious Diseases

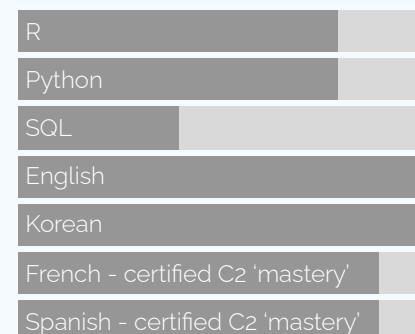


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## CONTACT

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 [changhoyoon](#)  
 [chy055](#)

## LANGUAGE SKILLS



2020  
|  
2019

### MBI, Master's of Bioinformatics

Harvard University | MIT  
Fulbright Scholar

Boston, USA

2012  
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2006

### MB BChir (MD), Medicine & Surgery

University of Cambridge  
University Academic & Music Scholar

Cambridge, UK

- MB BChir (MD) (Distinction, GPA 4.0)
- BA in Natural Sciences (1st class, GPA 4.0)

## ⚙️ AI & TECH EXPERIENCE

2025  
|  
2024

### AI & Digital Health consulting at AGMI

Boston, USA

- Developing AI deployment strategy & operational optimisation models across the value chain for Biopharma, Biotech and Healthcare institutions (US, APAC, LATAM)
- Collaborating with C-suite and directors for cross-functional development of AI tools, e.g., AI agents for competitive market analysis and due diligence
- Led the analysis and publication of 4 strategically-aligned Real-World Evidence papers for a Biopharma client within 6 months using patient-level, claims and registry data
- Data tools: Snowflake, AWS Cloud & SageMaker
- Ontologies: ICD-10, SNOMED CT, LOINC, CPT codes

2022

### AI R&D Intern

QuantumBlack (McKinsey & Co.)

London, UK

- Built internal tool (Python, PyTorch) for semi-automatic, interpretable, causal AI
- Collaborated with C-suite of US client, internal data engineers and scientists

2021  
|  
2020

### Orion Healthcare

Orion Health

Auckland, NZ

- Collaborated with C-suite to write internal white paper on ML & AI opportunities using electronic health data

2018  
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2016

### Co-Principal Programmer & Investigator

SCRIPT antibiotic app

Auckland, NZ

- Spearheaded the development, design & research of a smartphone app displaying antibiotic guidelines to hospital doctors
- Won \$250,000 in national research grants
- Continues to be downloaded & used 800,000+ times/year

## 👤 CLINICAL EXPERIENCE

Current  
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2025

### Senior Resident

Royal College of Physicians of Ireland

Dublin, Ireland

2025  
|  
2024

### Clinical Fellow

Oxford University Hospitals NHS Trust

Oxford, UK

- Infectious Diseases, Haematology, Oncology

2021  
|  
2014

## Medical Resident

Imperial College & Auckland Hospitals

📍 London | Auckland

- Oncology, Haematology, General Internal Medicine
- Prizes for Clinical, Teaching & Research Excellence

## SELECTED PUBLICATIONS

- [Orcid ID for all affiliations & articles](#)
- 2025 • **Transformers and large language models are efficient feature extractors for electronic health record studies**  
Communications Medicine (Nature) [link](#), joint 1st author
- 2024 • **Distinct patterns of vital sign and inflammatory marker responses in adults with suspected bloodstream infection**  
Journal of Infection [link](#)
- 2023 • **Long-Term Impact of a Smartphone App on Prescriber Adherence to Antibiotic Guidelines for Adult Patients With Community-Acquired Pneumonia: Interrupted Time-Series Study**  
Journal of Medical Internet Research [link](#), 1st author
- 2022 • **A convolutional neural network highlights mutations relevant to antimicrobial resistance in *Mycobacterium tuberculosis***  
Nature Communications [link](#), joint 1st author
- 2022 • **Mortality risks associated with empirical antibiotic activity in *Escherichia coli* bacteraemia: an analysis of electronic health records**  
Journal of Antimicrobial Chemotherapy [link](#), 1st author
- 2021 • **Machine learning in medicine: should the pursuit for enhanced interpretability be abandoned?**  
Journal of Medical Ethics (BMJ) [link](#), 1st author

## SELECTED INVITED TALKS

- 2024 • **Generative AI in clinical practice**  
European Congress of Clinical Microbiology & Infectious Diseases
- 2022 • **Harnessing AI for genomic insights in drug-resistant TB**  
WHO
- 2020 • **Musings on AI**  
[IM Reasoning podcast](#)
- 2017 • **Complex medical case**  
[IM Reasoning podcast](#)

## TEACHING EXPERIENCE

- 2025  
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2025  
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2018  
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2022  
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2021  
|  
2010
- **Machine learning & AI with biomedical data**  
University of Zürich & ETH Zürich  Zürich, Switzerland
    - Invited faculty, lecture & practical sessions on ML & AI tools applied to multimodal biomedical data
  - **Co-creator of medical MCQs website**  
**MedCQs**
  - **Machine learning & AI with biomedical data**  
Oxford's Big Data Institute  Oxford, UK
    - Lecture & interactive seminar for Oxford PhD students using Google Colab.
  - **Tutor of natural sciences & medicine**  
Medical simulations, clinical, pre-clinical  Multiple (see details)
    - Created and taught pathology & bedside clinical simulation at Cambridge University, Imperial College, Auckland University
    - range of feedback scores: 4.5-4.9/5.0

## LEADERSHIP

- 2023  
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2023  
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2018  
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2020
- **Environmental Officer**  
St. John's College, University of Oxford
  - **Medical Residents' Training Committee**  
Royal Australasian College of Physicians (NZ)
  - **MIT Grand Hack**  
Led teams to win Hacking Medicine & special industry prizes

## OTHER INTERESTS

- **Arts**  
Former professional, casual violinist for Auckland Philharmonia Orchestra  
Former lead violin understudy in Les Misérables - West End, London  
ABRSM Performance Diplomas: Distinctions in violin & piano  
Highland bagpiper  
Historical fiction
- **Sport**  
Triathlon incl. Ironman, marathon, trail ultramarathon, open-water swimming