**Kieran Didi**

Education

**MPhil Computational Biology (Appl. Maths), Cambridge University, St. John’s College** 10/2022 – 09/2023

Lectures include deep learning, statistics, genomics, systems biology, protein design

**M.Sc. Biochemistry (focus CS), Ruprecht-Karls-University Heidelberg**  10/2021 – Present

* Lectures from CS/Maths/Physics faculty, including machine learning I+II,

operating systems, networks, software development, algorithms & data structures

* Lectures from Biology/Chemistry faculty, including bioinformatics,

multi-omics analysis, simulation methods, journal club ML for biology

**Cambridge University, St. John’s College (scholarship exchange year)**09/2020 – 10/2021

Natural Sciences Part II, lectures including math. methods, symmetry,

Cheminformatics*,* theoretical chemistry, scientific programming

**B.Sc. Biochemistry, Ruprecht-Karls-University Heidelberg** 10/2018 – 10/2021

Grade 1.0 (highest grade of 73 students), additional lectures in

macroeconomics, econometrics, business and statistical learning

Work Experience

**EMBL-EBI** Cambridge, UK

**Machine Learning Engineer Intern** 10/2022 – Present

* Critically test and evaluate BioML models for BioModels database

**CSIRO Sydney, team Translational Bioinformatics** Sydney, Australia

**Software Engineering Intern (Cloud-native genomics)** 07/2022 – 10/2022

* Developing cloud-native Python software for omics analysis
* Keynote presentation at [eSCAMPS symposium](https://escamps.org/), poster at [Westmead Conference](https://www.luminesce.org.au/the-2022-westmead-research-and-innovation-conference/)
* Using Spark, AWS and Terraform to facilitate scaling and reproducibility

**PTNG Consulting** Melbourne, Australia

**Consultant for ML/bioinformatics projects** 06/2022 – Present

* Delivering and communicating insights via literature research/ML and

bioinformatics analysis

* Example topics: protein design and structural analysis of antibodies

**Chemistry Department, Cambridge University** Cambridge, UK

**Thesis Student, Bernardes/Knowles/Sormanni Lab** 09/2020 – 10/2021

* Designed peptide therapeutics and developed screening system

([publication in peer-review](https://www.biorxiv.org/content/10.1101/2020.06.04.132308v4))

* Enabled improved classification results by building large-scale

database for high-quality antibody sequences, incl. data quality

control and annotation

* Developed ML models and processing pipeline to quantify

nativeness of antibody sequences (PyTorch)

**BioMed X Innovation Center (with Janssen Pharmaceuticals)** Heidelberg, Germany

**Research Intern** 08/2019 – 04/2020

* Established a screening system for autoimmune diseases for

multi-national pharmaceutical company, throughput

improvements enabling personalized patient screens

* Developed and presented novel approach to BioMedX

founder, board members and staff (50)

Skills

**Programming:** Python, R, Java, C++ (prior experience)

**Machine Learning:** PyTorch and TensorFlow, used in research placements and summer school projects

**Cloud Computing/HPC:** AWS, Terraform (Infrastructure-as-code), Spark

**Web Development:** HTML/CSS, JavaScript, MERN stack, focus on backend

**Protein Engineering:** PyMol, ChimeraX, BioLuminate, ML Tools, basic Rosetta

**Teaching:** Designed and held undergraduate lectures on data science with Python, including NumPy, pandas, Matplotlib and seaborn; tutored maths/chemistry/biochemistry

**Online Coursework:** Algorithms I+II (Princeton), Deep Learning (Andrew Ng), ML with Graphs (Stanford)

**ML Summer Schools:** OxML, EEML (presented [GNN paper](https://arxiv.org/abs/2206.10991v1)), SMLW, DLAI6, Medical DL, Resource-aware ML

certificates

* 2022: AWS Certified Cloud Practitioner
* 2022: Web Development BootCamp TechLabs (6 months)
* 2022: Nvidia: Fundamentals of Deep Learning with Multiple GPUs
* 2021: Cambridge i-Teams certificate for consulting project at biotech startup (ADC technology)
* 2019: Data Science BootCamp TechLabs (6 months)
* 2019: Heidelberg University: Innovation in Small and Big Companies
* 2019: Heidelberg University: Fundamentales in Business

Leadership and Awards

* 2022: Scholarship from both DAAD and Studienstiftung for master’s studies at Cambridge
* 2021: Sartorius scholarship for master’s studies at Heidelberg for academic performance
* 2021: Marsilius Certificate for statistical learning: Econometric predictions via LSTMs
* 2020: Scholarship for exchange year at Cambridge University
* 2019: Digital Shaper Award for project at TechLabs program ([water quality predictions](https://medium.com/techlabsms/water-quality-prediction-via-doc-dissolved-organic-carbon-in-the-swiss-rhine-48fb01055957))
* 2018: Scholarship of German Academic Foundation based on intellectual ability
* 2018: Biology Olympiad, [2nd place in Germany](https://qa.ipn.uni-kiel.de/en/the-ipn/archive/the-german-team-for-the-international-biology-olympiad-in-tehran-has-been-confirmed) (>2,000 participants), silver medal at the International Competition in Tehran (best 30% of global selection of talents)

Voluntary Experience

**Nucleate UK** Cambridge, UK

**Communications Lead, Cambridge Chapter** 07/2022 – Present

* Organized nationwide comms strategy for empowering biotech talents

**German Biology Olympiad Association** Kiel, Germany

**Steering committee** 05/2019 – 07/2022

* Co-ordinated selections rounds: Coached 45 participants/year
* Enabled selected participants exposure to leading researchers via

internships at prestigious institutions (e.g. Max Planck Institute) each year,

launched new formats (e.g. participation in summer schools)

**Student parliament Heidelberg** Heidelberg, Germany

**Conference administration** 11/2018 – 09/2020

* Designed, chaired and summarized biweekly debates
* Reduced debating time by >1 hour/debate by implementing

new efficient working procedures

Interests

* Handball player, 3x state championship winners, first local team to reach statewide league
* Authored a fantasy book about a teenager able to stop the time (220 pages)
* Published opinions and reports (10) in newspapers (e.g. Kölner Stadt-Anzeiger)
* Science communication at preLights, [publishing highlights](https://prelights.biologists.com/highlights/state-of-the-art-estimation-of-protein-model-accuracy-using-alphafold/) of new “ML for biology” preprints
* Enthusiastic guitar player for 12 years, teamed up with drummer for cover songs