

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

- 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, applications in e.g. biosecurity (abstract at [Westmead 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](#))
 - 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 (>100x more samples in same time) enabling personalized patient screens
 - Developed and presented novel approach to BioMedX founder, board members and staff (50)

SKILLS

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

Cloud Computing: AWS, Terraform for Infrastructure-as-code

Web Development: HTML/CSS (incl. Bootstrap, Flexbox, Grid), JavaScript, MERN stack, focus on backend

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

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](#)), SMLW, DLAI6, Medical DL, Resource-aware ML

Hackathons: OpenGov Canberra 2022, OpenACC GPU Bootcamp, TechLabs DataScience Bootcamp

CERTIFICATES

- 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: Fundamentals in Business

LEADERSHIP AND AWARDS

- 2022: Scholarship from both DAAD and Studienstiftung for master's studies at Cambridge (30k €)
- 2021: Sartorius scholarship for master's studies at Heidelberg for academic performance (20k €)
- 2021: Marsilius Certificate for statistical learning: Econometric predictions via LSTMs
- 2020: Scholarship for exchange year at Cambridge University (20k €)
- 2019: Digital Shaper Award for project at TechLabs program ([water quality predictions](#))
- 2018: Scholarship of German Academic Foundation based on intellectual ability
- 2018: Biology Olympiad, [2nd place in Germany](#) (>2,000 participants), silver medal at the International Competition in Tehran (best 30% of global selection of talents)

VOLUNTARY EXPERIENCE

German Biology Olympiad Association

Steering committee

Kiel, Germany
05/2019 – Present

- 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

Conference administration

Heidelberg, Germany
11/2018 – 09/2020

- Designed, chaired and summarized biweekly debates (30-page report per debate)
- 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 nationwide 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](#) of new "ML for biology" preprints
- Enthusiastic guitar player for 12 years, teamed up with drummer for cover songs