Personal Webpage | kieran.didi(at)gmail.com

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, poster 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 enabling personalized patient screens
- Developed and presented novel approach to BioMedX founder, board members and staff (50)

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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), 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)
- 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

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 of new "ML for biology" preprints
- Enthusiastic guitar player for 12 years, teamed up with drummer for cover songs