Kevin Chan

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 Personal Website
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EDUCATION

- **PhD in Astrophysics** *09/2019-12/2023*

  Research in protoplanetary discs. QMUL (Queen Mary University of London)

  – Advanced a modification of FARGO3D hydrocode to simulate protoplanetary discs on high performance computing systems.
  – Data analysis and data visualisation using Matplotlib, SciPy and NumPy libraries in Python on Jupyter Notebooks.
  – Achieved publication of LaTeX formatted papers on MNRAS (Monthly Notices of Royal Astronomical Society).

- **MSci Astrophysics** *09/2014-07/2018*

  Graduated First Class Honours. QMUL

  – Developed a first order ODE solver in Python using Spyder IDE simulating gap formation of a protoplanetary disc.
  – Stayed up to date in technology for detecting black holes, producing an academic review paper of current observations and techniques.
  – Relevant modules: Introduction to Scientific Computing, Introduction to C++ Programming, Mathematical Techniques.

PUBLICATIONS AND AWARDS

- **Technical Excellence Award** *10/2023*

  Voted for excellent coding practices during the software engineering bootcamp. BNTA (Bright Network Technology Academy)

- **Stability of a Dusty Ring in a Planet Embedded Protoplanetary Disc** *12/2023*

  Chan & Paardekooper (2023). MNRAS

- **Single fluid versus Multifluid** *09/2022*

  Chan & Paardekooper (2022). MNRAS

CODING EXPERIENCE

- **Hack For Change** *10/2023-11/2023*

  AI to reimagine the work-place as a completely inclusive environment. Bright Network (remote)

  – Two week hackathon developing an application using AI in the workplace to improve inclusivity and diversity in a team of six.
  – Developed a mental health app to tackle workplace stress using React Native and Spring Boot, integrating OpenAI to provide a safe chatbot.
  – Won the People's Champion Vote from an audience of 160 people, sharing a part of the prize pool.

- **Capstone Project** *09/2023-10/2023*

  A react based dynamic routing application to increase efficiency of deliveries. BNTA

  – Using MapBox GL JS and Mapbox Directions API, created a full stack dynamic routing application in Vite React.
  – Improved the efficiency of deliveries for a fictional company that was in the process of digitising.
  – Created an Agile environment in a team of five over two weeks with a research sprint, daily stand ups and weekly retrospectives.

- **Front End Project** *08/2023-09/2023*

  Webpage utilising a restaurant recommendation API. BNTA

  – Designed and coded a front end web page for a restaurant recommendation API, using React library as a group of five, with mobbing and paired programming.
  – Effectively integrated HTML image maps to design a filter by London boroughs.

- **Back End Project** *07/2023-08/2023*

  A spring boot backend server for a bookshelf API. BNTA

  – Programmed a bookshelf API with Spring Boot in Java and PostgreSQL for database management, taking inspiration from Goodreads.
  – Accomplished a REST API with full CRUD functionality that supported a different group's front end project.

WORKING EXPERIENCE

- **Professional Skills for Scientists Demonstrator** *03/2022-07/2022*
  QMUL
  - As a team of demonstrators, assisted undergraduates with weekly coding lab assignments, enhancing their skills in Python.
  - Offered valuable support in terms of job opportunities by guidance in developing their essay writing, research, and communication skills.

- **Introduction to Scientific Computing Demonstrator** *10/2020-07/2021*
  QMUL
  - Resolved technical coding issues that undergraduates had when tackling Python programming in a scientific background.
  - Rectified existing course code, improving quality of the module and delivering constructive feedback to the module organiser.

- **Stars Module Demonstrator** *03/2019-07/2019*
  QMUL
  - Managed a class of undergraduates for weekly exercises classes for an astrophysics module.
  - Problem solved and presented solutions on the whiteboard, solving scientific queries and questions.
  - Marked coursework from undergraduates and provided feedback to the group and 1:1.

- **Physics and Maths Tutor** *09/2018-05/2022*
  London
  - Planned KS2- A level material, providing 1:1 tutoring sessions remotely and in person.
  - Generated a network of ten tutees from use of social media and successfully achieved target grades by students and parents.
  - Improved communication in explanations of maths and physics across all ages.

- **Customer Assistant** *06/2012-06/2017*
  Tesco Extra, London
  - Provided training sessions to internal staff on products and customer service.
  - Solved customer queries and requests across different departments.
  - Adapted to different roles when needed in the store, including security, stock management, front tills and kiosk.

KEY CONFERENCES AND WORKSHOPS

- **Protostars and Planets VII** *04/2023-05/2023*
  Kyoto, Japan
  - Enriched scientific knowledge through attending the largest conference for formation of stars and planets.
  - Maintained network in astrophysics field and generated collaboration ideas.

- **Dustbusters Workshop** *05/2022*
  Gargnano, Italy
  - Engaged in a week-long series of lectures and evening workshop, learning different areas of astrophysics.
  - Mentored a team of three on the use of a hydrocode resulting in presentations of post processed data from telescopes to an audience of 50 PhD students and professors.

- **London Exoplanet Day** *12/2021*
  University College London, London
  - Created new network of astrophysicists from different universities.
  - First presentation of preliminary results to external members including PhD students, lecturers and professors.
  - Generated interest in the scientific topic and further discussions.

TECHNICAL SKILLS AND INTERESTS

Languages: C/C++, Python, Java, Javascript, HTML, CSS, LaTeX
Libraries : ReactJs, NodeJs, SciPy, NumPy, Matplotlib
Web Dev Tools: Git, Github, Trello, Excalidraw
Frameworks: React Native, Spring Boot
Databases: PostgreSQL
Hard Skills: Computational Astrophysics, Numerical Methods, Data Analysis, Publication, Algorithms, Software Development, Mathematics and Physics
Soft Skills: Problem Solving, Adaptability, Collaboration, Communication, Leadership, Time Management, Networking, Presenting, Teaching, Assessment and Evaluation
Hobbies: Bouldering, Coding Challenges, Piano, Chess, Pub