# JOSHUA BERCICH

(+61) 413 423 248 ⋄ Sydney, NSW, Australia
[LinkedIn](#) ⋄ [GitHub](#)

## OBJECTIVE

I am working as a Junior Data Scientist at Pending AI to expand my knowledge and skills for emerging challenges with an interest in deep tech for social good. My areas of expertise are ML and statistical analysis although I am looking for opportunities to create and innovate in complex and challenging environments within the CS community.

## EDUCATION

**[Tentative] Kyoto Univeristy, Japan**                                                        2023
*Kyoto Univeristy International Exchange Program (KUNIEP)*                         *Sakyo Ward, Kyoto*

- Semester exchange program in fulfilment of tertiary studies at the University of Sydney.

**Univeristy of Sydney**                                                        Feb 2019 - Nov 2023
*Bachelor of Advanced Computing / Bachelor of Science (Dalyell Scholarhip)*             *Camperdown, NSW*

- Majoring in Computer Science and Data Science; Honours thesis on VR computer vision ML (High Distinction).
- Areas of study: machine learning, statistics, data analysis, systems programming, algorithmic analysis, optimisation, software development.

**St Joseph's College Hunters Hill**                                                        Feb 2013 - Nov 2018
*High School Certificate*                                                        *Hunters Hill, NSW*

- Competed in academic, debating, soccer, and tennis competitions. Participated in social inter-school programs and supported younger students through peer tutoring sessions.

## SKILLS

| Technical Skills | ● ● ● | Python (ML, algorithms), Java (dev), R (stats), Neo4j, SQL, GH Actions, Unix |
| --- | --- | --- |
|  | ● ● ○ | MongoDB, Cypher, C, TypeScript, JavaScript, HTML, CSS, Gurobi, K8, AWS |
|  | ● ○ ○ | C++, Spring, Haskell, SHACL, VBA |
| **Soft Skills** |  | Independent and collaborative team member, problem solving, interpersonal communication, innovative, inquisitive, committed and hard working. |

## EXPERIENCE

**Junior Data Scientist**                                                        Dec 2021 - Present
*Pending AI (Cheminformatics)*                                                        *South Eveleigh, NSW*

- Designed and implemented cutting edge graph-based retrosynthesis algorithms on empirical reaction data.
- Reduced route extraction times from 10+ minutes to sub-second returns using custom Neo4j plugins.
- Managed the internal Neo4j database cron jobs, ETL pipelines, security and availability.
- Self-managed PM in a scrum environment, team collaboration such as service communication protocols.

**Software Engineer Intern**                                                        Jun 2021 - Dec 2021
*Deferit (Financial Tech)*                                                        *Sydney, NSW*

- Automated backend system operations, customer bill payments, data visualisation and web interactions (Agile).
- Reviewed and improved the application codebase to assess optimal logic flow and structure for bottlenecks.
- Collaborated with separate teams in completing Jira tickets and Confluence documentation for new features.
- Constructed NLP frameworks (NER) for accurate bill information extraction and integration into the existing codebase.

## PUBLICATIONS & PROJECTS

- **Thesis - Deep Learning Media Space Generation for Virtual Reality Video Data (2022)**: image segmentation Transformer for media space generation and attention ranked centroid predictions in equirectangular projections.
- **Investigating relationships between socioeconomic status and predictive biomarkers for Type 2 Diabetes Priors (2022)**: university academic paper; responsible for statistical analysis for *large p small n* reduction and modelling.
- **KidneyExpress (2022)**: team-based university project with an external client developing a Shiny app to support medial experts and serving a lightweight SVM ensemble for gene expression predictors of kidney transplant patient risk.
- **MEDSUnited (2021)**: team-based university project with an external client developing a React scene generation tool for Unity; presented at the Biosciences Education Australia Network 2021 Forum and is now used by medical science students.

## HONOURS & AWARDS

**School of Computer Science Undergraduate High Honour Roll** May 2022

- Achievement of a high distinction WAM in at least 24 credit points in Computer Science penultimate units.

**University of Sydney Academic Merit Prize** May 2022

- Awarded on recommendation by faculty Deans. Recognises high WAM performing undergraduate students.

**Dean's List of Academic Excellence** Apr 2021

- Awarded for a high distinction WAM for undergraduate students in the Faculty of Engineering.

**Duke of Edinburgh Award (Bronze)** Sep 2015

- Completed a service (Coaching), skill (Debating), physical activity (Soccer) and multi-day camping trip.

## EXTRA-CURRICULAR ACTIVITIES

**Computer Science Faculty Mentor** Feb 2020 - Feb 2021
*University of Sydney*

- Provide first-year Computer Science students support in their concepts of data structures and programming as well as provide advice on coding axioms and techniques during programming labs.

**Engo-Peer Mentor** Feb 2020 - Jun 2020
*University of Sydney*

- Responsible for leading a group of first-year engineers to build support networks and provide academic and administrative advice by resolving issues in their early studies.

**Peer Mathematics and English Tutor** Feb 2017 - Nov 2018
*St Joseph's College Hunters Hill*

- Support early years with assisted reading programs helping students with advancing to higher literacy grades. Tutor morning mathematics sessions for all cohorts with one-on-one supervision.