

HENRY BURGESS

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EDUCATION

Bachelor of Engineering (Hons.) (Software)

The University of Queensland

Brisbane, Australia

January 2017 - June 2021

GPA: 6.67 (equiv. 3.85), Honors Class I

Thesis: "Implementation of Online Neuropsychological Tasks using JavaScript"

Thesis Supervision: Linda Richards AO, FAA, FAHMS, PhD; Ryan Dean, PhD; Richard Thomas, MAppSc

Awards and Honors: UQ Future Leader (Class of 2021), Hawken Scholar (2020), Dean's commendation for academic excellence (2019, 2021)

Dalian Neusoft University of Information

Dalian, China

June 2018 - July 2018

Awarded a travel grant to attend and participate in an innovation and entrepreneurship program facilitated by the Australian Government's New Colombo Plan.

PROFESSIONAL EXPERIENCE

Software Engineer II

Washington University School of Medicine in St. Louis

September 2021 - Present

St. Louis, United States

Designed, deployed, and maintained a full-stack web application to handle thousands of scientific metadata records using React, GraphQL, and MongoDB. Implemented 2 full-stack web applications using TypeScript, React, and RESTful API design to present scientific stimuli, collecting data from 50 research participants online across 3 continents. Developed multiple VR applications for the Meta Quest platform using WebXR or Unity. Deployed applications and collected behavioral and eye-tracking data from 30 research participants. Ownership of the software development lifecycle, working within a cross-functional scientific team. Presented projects at conferences across the US and featured in 2 scientific publications.

Teaching Assistant

The University of Queensland

January 2019 - June 2022

Brisbane, Australia

Taught fundamentals of Software Engineering and collaboration, worked alongside faculty to improve or develop new coursework. Engaged for multiple semesters at the request of course coordinators.

CSSE1001 (Introduction to Software Engineering): Python; Object-Oriented Programming (OOP)

CSSE3012 (The Software Process): Software Development Life Cycle (SDLC); Agile

COMP4500 (Advanced Algorithms and Data Structures): Java; Computer Science; Data Structures

DECO2800 (Design Computing Studio 2): Java; Project Management; CI/CD

Research Assistant

Queensland Brain Institute

January 2021 - September 2021

Brisbane, Australia

Implemented and delivered 3 frontend applications using WebGL and JavaScript, collecting behavioral data using these applications from 20 participants in-person and online.

Software Intern

Deswik (Sandvik Group Member)

January 2020 - February 2020

Brisbane, Australia

Delivered bug fixes, interface enhancements, and general maintenance in the *Deswik.Sched* product development team. Used Visual Studio 2019 and C# in an Agile environment, participated in daily stand-up meetings and sprint retrospectives. Used Atlassian's Confluence and Jira to manage workflow. Received return offer upon graduation.

PUBLICATIONS

Peer-Reviewed

Richards, L. J., Barnby, J., Dean, R., **Burgess, H.**, Kim, J., Teunisse, A., ... & Dayan, P. (2021). Increased persuadability and credulity in people with corpus callosum dysgenesis. *Cortex*. <https://doi.org/10.1016/j.cortex.2022.07.009>

Pre-Print

Barnby, J. M., Nguyen, J., Griem, J., Wloszek, M., **Burgess, H.**, Richards, L., ... & Fonagy, P. (2024). Self-Other Generalisation Shapes Social Interaction and Is Disrupted in Borderline Personality Disorder.

<https://doi.org/10.31234/osf.io/kcwm8>

Conference Presentations

United States Research Software Engineers Association Conference

“MARS: An Open Source Application for Managing and Searching Scientific Metadata” 2024

“Realizing Dynamic Cognitive Tasks with Cloud-based Computation” 2023

IRC⁵ Meeting

“Exploring the Use of Virtual Reality Experiences in Research Participation and Behavioral Data Collection” 2024

“Enabling behavioural research with Computer Science” 2022

Cognitive Neuroscience Society Meeting

“Realizing Dynamic Cognitive Tasks with Cloud-based Computation” 2023

Society for Neuroscience

“Neurocog.js; A new tool for running cognitive experiments in both lab and online environments.” 2022

AWARDS

Schmidt Futures

2023 - 2024

Virtual Institute for Scientific Software (VISS) partnership with the Scientific Software Engineering Center at Georgia Institute of Technology.

PROJECTS

Metadatify

Metadatify, GitHub

Open-source scientific metadata management web application used to manage large and diverse collections of metadata. Allows metadata to be imported and exported for tracking purposes. Users can create workspaces for managing metadata and can collaborate within workspaces. Supports ORCID authentication.

Dynamic Cognitive Tasks

GitHub

Architecture to support advanced computations or modeling for primarily online cognitive research tasks, facilitating dynamic behavior and novel responses to participant input.

MEMBERSHIPS

The United States Research Software Engineer Association (US-RSE)

Member

2022 - Present

International Research Consortium for the Corpus Callosum and Cerebral Connectivity (IRC⁵)

Associate member, Neuropsychology

2021 - Present

Society for Neuroscience

Regular Member

2022 - 2023

Cognitive Neuroscience Society

Graduate Member

2022 - 2023

Engineers Australia

Graduate Member

2021 - 2024