HENRY BURGESS

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Highly adaptable Software Engineer with over two years of full-stack development experience, currently residing in St. Louis, United States. Sponsored to relocate from Australia and work for the Department of Neuroscience at Washington University School of Medicine in St. Louis under the direct leadership of Dr. Linda Richards, Department Chair. Working on advancing online behavioral and cognitive testing capabilities and large-scale scientific metadata management. Effective presentation and communication skills across disciplines and in professional forums. Seeking a role delivering objectives towards positive societal development, allowing personal investment in professional and technical capabilities including the potential for graduate study within the United States.

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 Columbo Plan.

PROFESSIONAL EXPERIENCE

Washington University School of Medicine in St. Louis   Software Engineer II
September 2021 - Present   *St. Louis, United States*
Member of the *Brain Development and Disorders Lab*, responsible for entire software development life cycle, including cross-disciplinary communication and project management. Primarily full-stack development activities utilizing tools such as TypeScript, React, Node.js, and Webpack. Self-directed learning to acquire core technical competencies to deliver objectives. Engaged in collaborations with internationally recognized experts including Dr. Peter Dayan FRS. Successfully delivered projects advancing capabilities of online behavioral and cognitive research tasks, resulting in multiple conference presentations. Additional responsibilities include large-scale metadata management, data management policy, and social media management. Highly familiar with scientific communication and collaboration.

The University of Queensland   Teaching Assistant
January 2019 - June 2022   *Brisbane, Australia*
Guided student learning, marked student assessment, and collaborated on coursework development. 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

Queensland Brain Institute   Research Assistant
January 2021 - September 2021   *Brisbane, Australia*
Promoted to Research Assistant while completing undergraduate project. Implemented three cognitive research tasks using JavaScript and jsPsych. Assisted with task delivery and supervision of participants attending the 2021 Australian Disorders of the Corpus Callosum (AusDoCC) conference.

Deswik (Sandvik Group Member) Software Intern

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.

CSIRO Research Assistant

June 2019 - July 2019 *Brisbane, Australia*

Developed a geospatial web application prototype using Google satellite imagery and JavaScript. Required to understand an agricultural context and UX requirements of end-users from subject-matter experts.

PROJECTS

Metadata Aggregator for Reproducible Science (MARS) [GitHub](#)

Open-source metadata management web application encouraging FAIR data principles and compliance with NIH data sharing requirements by ensuring experiment-generated metadata is indexable and accessible.

Tools: React, TypeScript, Webpack, Node.js, Express.js, MongoDB, Docker

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.

Tools: Docker, R, MATLAB

jspsych-attention-check [GitHub](#)

jsPsych plugin using TypeScript to present multiple-choice questions to participants completing behavioral and cognitive research tasks online. Ensures participant attention is retained, improving the data quality and reproducibility of online research.

Tools: jsPsych, TypeScript, Webpack

Neurocog.js [GitHub](#)

JavaScript package augmenting the functionality of jsPsych-based behavioral and cognitive research tasks. Facilitates integration with online platforms and streamlines developer and researcher experience when deploying research tasks online.

Tools: jsPsych, TypeScript, Jest, Webpack

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

Conference Presentations

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*

IRC[5] Meeting

"Enabling behavioural research with Computer Science" *2022*

MEMBERSHIPS

Society for Neuroscience

Regular Member *2022 - Present*

Cognitive Neuroscience Society

Graduate Member *2022 - Present*

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

Member *2022 - Present*

International Research Consortium for the Corpus Callosum and Cerebral Connectivity (IRC^5)

Associate member, Neuropsychology *2021 - Present*

Engineers Australia

Graduate Member *2021 - Present*

PERSONAL LIFE

Outside of work, I appreciate a variety of outdoor hobbies including backpacking and running. While in the USA, I have taken the opportunity to explore Yosemite and Joshua Tree National Parks and have hiked to the summit of Mt. Whitney (14,505ft). Completing my first half-marathon in 2022, I enjoy running both as a hobby and stress-reliever around the expansive Forest Park in my current home of St. Louis. Cooking is an everyday hobby that I enjoy after returning home from work, and I often enjoy the opportunity to cook and host for others.