Dylan **Royston**

NEUROSCIENTIST/NEURAL ENGINEER

Pittsburgh, PA, USA

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About me

- **Award-winning** research scientist studying human sensorimotor control and neurotechnology in the **Rehab Neural Engineering Lab** at the University of Pittsburgh (PI: Dr. Jennifer Collinger).

- **Expert** in collecting analyzing and visualizing multimodal neural data, human subject research, modern theories of neural computation in human multisensory integration and motor systems.

- **Team leader** with experience in developing and executing large multidisciplinary projects and quality deliverables, collaboratively and independently.

- **Passionate** about developing novel neurotechnologies and applying my skills and knowledge to interesting and important questions while continuing to grow as a scientist and engineer.

Background

PhD in Bioengineering (Neural Engineering) — *Pittsburgh, PA*

UNIVERSITY OF PITTSBURGH • CENTER FOR THE NEURAL BASIS OF COGNITION — *2014 - 2019*

BS in Biomedical Engineering • BA in Neuroscience — *Charlottesville, VA*

UNIVERSITY OF VIRGINIA — *2009 - 2013*

Experience

University of Pittsburgh — *Pittsburgh, PA*

POST-GRADUATE RESEARCHER — *2014-Current*

- **Developing novel analysis techniques** for integrating and decoding intracortical and neuroimaging data; **Building automated pipelines** to manipulate and process complex multimodal data structures
- **Designing behavioral paradigms** and collecting awake behaving experimental data from human subjects (neuroimaging and in vivo electrophysiology)
- **Specializing** in integrating neuroimaging and intracortical implant data, neurophysiological signal processing and analysis, multimodal data visualization and interpretation
- Presenting novel research results at 15 local, national, and international scientific conferences, resulting in **10 outstanding research awards** and 2 publications

University of Virginia — *Charlottesville, VA*

UNDERGRADUATE RESEARCHER — *2011-2013*

- **Collected and analyzed neural data** from whole-cell patch-clamp recordings in rodent brain slices; Tested efficacy of novel anti-epileptic compounds; **Awarded degree with distinction** for research thesis presentation

Fourth River Solutions (4RS) — *Pittsburgh, PA*

VICE PRESIDENT OF BUSINESS DEVELOPMENT — *2018-2019*

- **Managing key projects** with potential and ongoing clients (between 2-4 at once); Identifying client needs and managing engagement teams to create high-value deliverables
- **Leading development** of internal project-management tools and practices to streamline operations, resulting in new organization-wide SOP adoption

Languages/Tools

Languages

DATA ANALYSIS/ENGINEERING

- Matlab (8 yrs); data access and manipulation, data visualization, statistical inference and machine learning, spatial and time-series analysis, dimensionality reduction, model fitting, real-time decoding
- BASH (3 yrs); scripting neuroimaging processing and visualization pipelines
- Python (1 yr); real-time stimulus presentation and logging, data access and manipulation

Productivity Tools

NEUROIMAGING SUITES

- SPM (6 yrs); functional/anatomical MRI processing and model estimation
- AFNI/SUMA, Freesurfer, PyCortex (3 yrs); cortical surface reconstruction and functional data visualization

DEVELOPMENT TOOLS

- GIT (2 yrs), SVN (5 yrs); version control and collaborative development
- Labview/NiDAQ (1 yr); hardware control for recording/stimulation
- Unity/Oculus/Vive (1 yr); virtual reality scene development and system integration