Job Posting:172051 - Position: F25 Junior Research Assistant 172051B

Co-op Work Term Posted:	2025 - Fall
App Deadline	08/26/2025 09:00 AM
Application Method:	Through UBC Science Co-op
Posting Goes Live:	08/21/2025 11:58 AM
Job Posting Status:	Approved

ORGANIZATION INFORMATION

Organization	iCORD Centre, VCH Research Institute, UBC
Country	Canada

JOB POSTING INFORMATION

Placement Term	2025 - Fall
<b> Job Title <b>	F25 Junior Research Assistant 172051B
Position Type	Co-op Position
Job Location	Vancouver, BC
Country	Canada
Duration	8 months
Work Mode	Hybrid
	To be confirmed
Salary Currency	CAD
Salary	Salary Not Available, 0 Major List

Job Description

Location: Blusson Spinal Cord Centre, Vancouver, BC
Lab: Street Lab

Project Overview:

The research assistant will contribute to two spine surgery research projects:

- **Automated Spine Alignment Deremination:**
  This project employs convolutional neural networks (CNNs) to achieve precise, automated analysis of intra- and post-operative spine radiographs. The assistant will help curate and preprocess a retrospective dataset of adult spine X-rays, ensuring proper de-identification and metadata organization. They will implement and fine-tune CNN architectures for vertebral segmentation, collaborate on algorithm development to compute alignment parameters (e.g., Cobb angle, sagittal vertical axis, pelvic tilt), and validate outputs against manual measurements by expert raters. The role includes optimizing model performance, conducting statistical assessments of accuracy and inter-rater reliability, and stratifying results by surgical procedure type (e.g., fusion level, osteotomy).

- **Risks for Vascular Complications in Anterior Spine Surgery:**
  This clinical study investigates risk factors for vascular injury during anterior revisions following prior lumbar surgery. The assistant will extract surgical and imaging data from electronic health records and operative reports, assemble a cohort of adult revision cases, and collate intra-operative fluoroscopic images. Responsibilities include defining candidate predictors (e.g., anatomical metrics, prior instrumentation patterns), performing quantitative measurements on pre- and operative imaging, and applying appropriate statistical models (logistic regression, survival analysis) to identify associations with documented vascular events. The assistant will contribute to data cleaning, variable coding, radiological measurements and pathology classifications.

Key Responsibilities:

• Assist in machine learning algorithm development and testing for automated spine alignment calculations
•Contribute to comparative analysis between automated and manual assessment methods
•Participate in validation studies for clinical workflow integration
•Acquire, process and analyze and spine radiographic data
•Support clinical data collection and analysis for vascular complication predictors
•Assist with patient outcome data management and statistical analysis

Job Requirements

Skills Required:

• Familiarity with medical imaging (radiographs, CT)
•Strong analytical and problem-solving abilities
•Experience with clinical data management preferred

Citizenship Requirement N/A

APPLICATION INFORMATION

Application Procedure Through UBC Science Co-op
Cover Letter Required? Optional
Address Cover Letter to Laszlo Kiss