BRIAN CECHMANEK
Data Scientist
+1 403 998 3628 b@cechmanek.ca

Over 10 years of experience in: mechanical engineering, consulting, biomedical research, and data analytics, including 3 years running Calgary's largest social enterprise to solve neglected challenges posed by disability. Currently building supervised and unsupervised machine learning algorithms for medical digital signal processing applications.

Core Competencies

• Scientific programming (Python, SciPy/Numpy/Scikit-learn, R, Hadoop/Spark, Java)
• Data Visualization (dashboards, Tableau, Plotly, ggplot, Bokeh, Matplotlib, D3.js)
• Software development (SQL/MongoDB, node.js, Javascript, E2E/BDD-testing, Docker)

Professional Experience

Cofounder/Lead Data Analytics
Kadima Dynamics, Calgary AB   Apr 2017 – Jan 2018
- Launched a start-up to spur the creation of inclusive and assistive technologies in Canada and make Calgary the North American hub of inclusive design
- Hosted 3 annual Makeathons, solving 33 neglected challenges posed by disability
- Raised over $80,000 of funding from community partners and sponsors
- Created the TOM Calgary Student Chapter, a long-term project development initiative at the University of Calgary, with over 40 members

Data Scientist
Cybera, Calgary AB   Jan 2017 - Apr 2017
- Hired to consult on "big data" problems across Alberta, working for government and community stakeholders
- Developed and deployed a dashboard to analyze over 1.7 million data points
- Quantified 3 months of scraped Twitter data via Natural Language Processing
- Identified over 50% of student absentee factors for school district stakeholders

Analyst Intern
Cohesic Digital Health, Calgary AB   Sep 2016 - Jan 2017
- Developed software to produce structured medical imaging reports
- Created a reporting workflow allowing for the acquisition of structured datasets
- Wrote End-to-End test cases for 100% coverage of a patient-facing application
- Analyzed patient data, creating live visualizations of over 100,000 data points

Cofounder
Alta. Ltd. 1248812- Calgary AB   May 2006 - Oct 2017
- Launched at 16 years old; invented a physical (gas-liquid-sand) separator system for natural gas compression stations
- Ran the small company profitably for ten years
- Managed all aspects of a self-run engineering firm providing FEA, fabrication, inspection, consultation, and design of filtration separator packages

Biologist
SFN Biosystems Inc, Calgary AB   Sep 2012 - Jan 2013
- First biologist brought onto a team of engineers to build a PhotoBioReactor (PBR) system for the mass sequestration of carbon emissions via algae, resulting in a high-value end-product (algal oils and derivatives)
- Set up a biology laboratory under budget and on schedule
- Helped build an 80,000L enclosed PBR, the world's largest at the time
- Performed manual and automated daily biological readings
- Resulted in over $1 million of venture funding for the company

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Education & Research Experience

MMath, Data Science
University of Waterloo   Jan 2018-Present
- Data-intensive distributed computing (Hadoop, Spark)
- Artificial Intelligence (NLP, Affective Systems), Machine learning engineering (function estimation, ML statistical methods), advanced topics in clustering methods

MSc Biomedical Engineering, Medical Imaging
University of Calgary   Jun 2017
- Investigated brain differences in youth with Autism Spectrum Disorders by analyzing the largest ever public database of functional MRI images (MATLAB, Python, Excel)
- Employed principal component analysis (PCA), General Linear Modelling, and Linear Regression

BHSc (Hons), Novel Therapeutics for Ischemic Stroke
University of Calgary   May 2011
- Designed and built a temperature regulation and data acquisition system with capacity for six simultaneous occupants, to study new protocols for improving stroke outcomes
- Performed delicate micro-surgery model of stroke, tissue preparation, histology, immunohistochemistry, and data analyses. Resulted in first authorship of a peer-reviewed publication