Lodewijk **Brand**

Ph.D. Student · Colorado School of Mines · Active Security Clearance (SECRET)

1500 Illinois Street, Golden, CO 80401

(443) 414-9731 | lodewijk.brand@gmail.com | LodewijkBrand

Summary

Current Ph.D. student at the Colorado School of Mines in Golden, Colorado. An enthusiastic and open minded researcher focused on fostering collaborative research projects in machine learning under the guidance of Professor Hua Wang. Lodewijk's current goal is to encourage undergraduate students to pursue graduate education in Computer Science through involvment in high-impact research projects. When he's not in the lab Lodewijk can be found exploring/climbing in the Rockies.

Education

Colorado School of Mines — *Golden, Colorado*

P.hD. Student, Computer Science — *Aug. 2017 - Pesent*

- **Research:** Theoretically convergent machine learning algorithms applied to limited data, multi-input-multi-label applications in Alzheimer's Disease diagnosis and additive manufacturing.

Colorado College — *Colorado Springs, Colorado*

B.A. in Computer Science and Computational Chemistry - *magna cum laude* — *Aug. 2011 - May 2015*

- **Thesis:** *Neural Networks, Genetic Algorithms and the Blood-Brain Barrier.* Analyzed the effects of genetic algorithms on the performance of multi-layered neural networks. Developed the algorithms from scratch and created an application to predict the blood-brain barrier permeability of any chemical compound.

Work Experience

Colorado School of Mines — *Golden, Colorado*

Teaching/Research Assistant (20 hrs per week) — *Aug. 2017 - Present*

- **Leadership:** Mentored and designed implementaiton tasks for undergraduate students to develop a clinical research tool for the presynptomatic diagnosis of Alzheimer's Disease.
- **Teaching:** Supported an introductory Fortran class during lab and office hours.

Northrop Grumman — *Colorado Springs & San Diego, USA*

Software Engineer, Professional Development Program (40 hrs per week) — *Aug. 2015 - June 2017*

- **Embedded Sofware:** Developed and designed the initial prototype for a cross-domain-solution on a Xilinx Ultrascale+ using NSA software guidance principles. Fostered a team-oriented development environment for new engineers from *San Diego, California* to *Orlando, Florida*. Presented technical approach to internal customers.
- **Modeling & Simulation:** Developed algorithms in C# and Java for autonomous way-point navigation and leveraged novel machine learning algorithms to speed up a legacy software application by three orders of magnitude. Presented algorithmic approach to govenment customers.

Presentations

Neural Networks, Genetic Algorithms, and the Blood-Brain Barrier — *Colorado & Maryland, USA*

Seminar Presentation — *Jan. 2015*

- Presented to Dr. Michael Johnston's lab at the Kennedy Krieger Institute in *Baltimore, Maryland*.
- Presented to employees at the National Institute of Standards and Technology in *Gaithersburg, Maryland*.
- Selected speaker as part of a *Mellon Foundation Grant* to Air Force Cadets and Colorado College students in *Colorado Springs, Colorado*.

Awards

2017	**Travel Grant,** Advanced Computing for Social Change Institute ($1,500)	*Denver, Colorado*
2011-15	**Scholarship,** Colorado College Trustee Scholar ($30,000)	*Colorado Springs, Colorado*
2014	**Lecture Series,** "Speakers on Innovation" ($3,000)	*Colorado Springs, Colorado*
2013-14	**Research Grant,** Student-Faculty Collaborative Research ($8,000)	*Colorado Springs, Colorado*

Skills

Programming	Python, C/C++, C#, Java, LaTeX, Fortran, git, bash, buildroot, Gradle, TensorFlow, MATLAB
Teamwork	Agile, Communication, Leadership, Mentoring, Initiative
Languages	English, Dutch