ABINA BOESJES

CONTACT INFO

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ABOUT ME

Former neurobiologist, current masters student in Control Systems and cyberneticist with an interest in the parallels between biological computing and digital computing. I would like to use engineering tools such as system identification and control theory to better inform theories about neuroscience, or work for innovative companies that implement groundbreaking concepts to exploit technology for humanity.

EDUCATION

Masters in Control Systems — **Defense April 2026**

Technical University of Delft | *Delft, the Netherlands*

- Thesis on Image Compression in Imaging Mass Spectral (IMS) Data
- Computer Vision, Kalman Filtering, System Identification, Noise Cancellation, Control Engineering, Neural Networks (AI), Signal Processing, Data Compression, Hyperspectral Imaging, Machine Learning, Control Systems, Model Predictive Control, Optimization Algorithms

Bridging Program in Control Systems — **2019-2021**

Technical University of Delft | *Delft, the Netherlands*

Bachelors in Liberal Arts — **2012-2016**

Hampshire College | *Amherst, Massachusetts, USA*

- Focus on computational neuroscience, taking classes in organic/bio chemistry, mathematics, neurophysiology and psychology
- Thesis on insect vision focusing on motion vision using the Reichardt Detector algorithm in Drosophila Melanogaster

SKILLS

Software Data Analysis, Control Systems Engineering, Modeling, Signal De-Noising and Image Processing in **MATLAB (12 years)** and **Python (10 years)**, and Simulink. Some experience with analysis in R, Databases in SQL, LateX, Git and Bash.

Art & Design Adobe Photoshop , GIMP, Painting (oils, acrylics, murals and canvasses) , SketchBook, Drawing

Writing Scientific Writing at Masters' Level, Philosophical Writing at Bachelors Level

Languages English (native), Dutch (C1 Level), German (B2 Level), Spanish (B1 Level)

Culture Bartending, Event Organization, Graphic Design, Video Editing, Stage Management

Experimental Design Experience designing novel experiments for Biology and Engineering Contexts, Data Analysis, Data Presentation, Conference Presentations

EXPERIENCE

RESEARCH ASSISTANT — 2016-2019

University of Freiburg | *Straw Lab*

- Ran over 20,000 experiments on genetically modified fruit flies in a custom VR setup
- Analyzed large datasets of behavioral data of fruit flies using Python, Numpy, Pandas, and scipy
- Constructed a query-able database to easily store and access data analysis in SQL, with over 10 searchable variables, enabling us to search 2,000 figures, saving hours in analysis time
- Assisted in setting up custom VR equipment for conferences and Masters Classes
- Presented Posters at the IK Conference 2017, attended the ANN Conference 2018

NEUROBIOLOGY INTERN — 2014-2015

University of Oregon | *Wehr Lab*

- Assembled tetrode arrays to collect signals from mouse auditory cortex
- Manually clustered data from cells in mouse cortex
- Gained familiarity with MATLAB

ACHIEVEMENTS

Honors

- Valedictorian 2012
- Teen Choice Award Art Contest 2011 (Honorable Mention)

REFERENCES

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