Curriculum vitae

Akke Mats Houben

October 31, 2018

Personal data

Name:	Houben, Akke Mats
Nationality:	Dutch
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Date of birth:	10-04-1991
Gender:	male
Webpage:	http://akkeh.github.io

Research interests

My main research interests aim to achieve an understanding of neuronal systems and processes at different levels of description (conceptual and qualitative) through the development and application of computational models. I want to investigate how the interaction between the dynamics of single neurons give rise to neuronal assemblies and what the roles of these cell assemblies are in perception, memory, cognition and processing in the brain. I am particularly interested in the micro- and mesoscale neural mechanisms and interactions and the global network dynamics emerging from these. Ultimately, I wish to discover how these principles and processes of the brain self-organise and give rise to behavior, memory and consciousness.

Keywords:	- Computational & theoretical neuroscience - Neuronal dynamics, plasticity, adaptation and organisation - Dynamics of assembly formation and their functions

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Education & training

Dates:	2017-present
Title:	**Mres in Behavior and Cognition** (60ECTs)
Main subjects:	- Computational modeling of neurons, networks, behavior and cognition - Neuroscience, cognition and brain functioning - Neuroimaging & neuronal data analysis - Data analysis & research methodologies
Institute:	*Faculty of Psychology* *University of Barcelona* *Barcelona, Spain*
Level:	EQF level 7
GPA:	**9.2/10**

Dates:	2013-2017
Title:	**Ba in Music and Technology** (240ECTs)
Main subjects:	- Programming - (Digital) signal processing - System design & analysis
Institute:	*Faculty of Music and Technology* *University of the Arts Utrecht* *Utrecht, The Netherlands*
Level:	EQF level 6 (with Honours)
GPA:	**8.4/10**

Dates:	2016-2017
Title:	**Honours program Ba** (10ECTs)
Institute:	*Faculty of Music and Technology* *University of the Arts Utrecht* *Utrecht, The Netherlands*
Level:	EQF level 6

Dates:	November-December 2016
Title:	**Extracurricular: Bayesian Statistics**
Main subjects:	- Conditional probabilities & bayesian inference - Data analysis
Institute:	*Coursera (Duke University)* *https://www.coursera.org/learn/bayesian*
Level:	Coursera course

Dates:	September-November 2016
Title:	**Extracurricular: Machine learning**
Main subjects:	- Bias-variance analysis of algorithms - Bayesian learning, regression models & neural networks - Java implementations
Institute:	*Utrecht University* *Utrecht, The Netherlands*
Level:	EQF level 6

Dates:	September-November 2016
Title:	**Extracurricular: Logic**
Main subjects:	- Set theory, predicate logic & propositional logic - Proof by induction & natural deduction
Institute:	*Utrecht University* *Utrecht, The Netherlands*
Level:	EQF level 6

Dates:	2014-2015
Title:	**Extracurricular: Audio signal processing for music applications**
Main subjects:	- Fourier-based signal processing & analysis
Institute:	*Coursera (Universitat Pompeu Fabra & Stanford University)* *https://www.coursera.org/learn/audio-signal-processing*
Level:	Coursera course

Dates:	2012-2013
Title:	**Preparatory course Music and Technology**
Institute:	*University of the Arts Utrecht* *Utrecht, The Netherlands*

Dates:	2011-2012
Title:	**Several courses of Ba Science**
Main subjects:	- Mathematics, programming, physics, organic chemistry
Institute:	*Radboud University Nijmegen* *Nijmegen, The Netherlands*
Level:	EQF level 6

Dates:	2011-2012
Title:	**Extracurricular: Biology**
Institute:	*ROC Midden Nederland* *Utrecht, The Netherlands*
Level:	EQF level 4

Dates:	2009-2010
Title:	**Several courses of Ba Psychology**
Main subjects:	- Neuronal anatomy, neurophysiology & research methodologies
Institute:	*Tilburg University* *Tilburg, The Netherlands*
Level:	EQF level 6

Dates:	2003-2009
Title:	**Preparatory scientific education (VWO)**
Institute:	*College de Heemlanden* *Houten, The Netherlands*
Level:	EQF level 4

Invited talks

Date:	06 september 2018
Title:	***A calcium-influx-dependent plasticity model for single compartment neuron models***
Institute:	*University of Padova*

Student awards & grants

Dates:	April-july 2017
Grant:	Jan van Scorel exchange grant
Granted by:	University of the Arts Utrecht

Dates:	November 2015-May 2016
Grant:	Erasmus+ traineeship grant
Granted by:	University of the Arts Utrecht

Teaching experience

Dates:	2014-2015
Subject(s):	- Second-year programming classes (C++) - First-year programming classes (LISP & java)
Institute:	*University of the Arts Utrecht* *PO-BOX 2471* *1200CL Hilversum, The Netherlands*

Conferences, seminars & workshops

Poster presentations

Date(s):	24-25 may 2018
Conference name:	**BARCCSYN**
Institute:	*Centre de Recerca Matematica* *Barcelona, Spain*
Website:	`www.crm.cat/2018/barccsyn`
Poster title:	*Calcium influx dependent plasticity model*

Organisation & crew

Year:	2015
Conference name:	**Linux Audio Conference**
Institute:	*Johannes Gutenberg University* *Mainz, Germany*
Website:	`http://lac.linuxaudio.org/2015`
Role:	session chair

Attendance

Date(s):	2018
Conference name:	**Does the body need a brain to be a body?**
Institute:	*Universitat de Barcelona & Human Brain Project* *Barcelona, Spain*
Website:	`https://hbpbrainbody.wordpress.com/`

Working experience

Dates:	2016-2017
Position:	**Junior software developer**
Main activities:	- Database management - GUI/UI & UX development - Python & SQL
Employer:	*DDL Diagnostics Laboratory BV* *Visseringlaan 25* *2288ER Rijswijk, The Netherlands*
sector:	Bio-informatics & ICT

Dates:	2015-2016
Position:	**Research intern**
Main activities:	- Individual research project - Corpus analysis & programming
Employer:	*Music Technology Group* *Universitat Pompeu Fabra* *c/Roc Boronat, 138* *08018 Barcelona, Spain*
sector:	Research

Dates:	2014-2015
Position:	**Student delegate at participation councol**
Main activities:	- Representation of students to executive board
Employer:	*University of the Arts Utrecht* *PO-BOX 2471* *1200CL Hilversum, The Netherlands*
sector:	Education

Skills & competencies

Mother tongue:	Dutch
Other languages:	English (C2), German (B1) & Spanish (A1)

Programming	C++	advanced
	Python	advanced
	Matlab/GNU Octave	advanced
	Bash/shell scripting	advanced
	LateX	advanced
	R	advanced
	Java	intermediate
	SQL	intermediate
	CLisp	beginner
	Fortran	beginner

Research:
- Trained in neuroscience research methods
- Experience in computational modeling of neurons & networks
- Skilled in investigation, understanding and implementation of algorithms
- Used to perform (independent) research
- Creative and resourceful

Driving licence: B