MICHAEL JEFFERS

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OBJECTIVE

Software developer, designer and educator with background in architectural design, and digital fabrication technology. Seeking opportunity to exercise technical and creative capacities.

EDUCATION

CARNEGIE MELLON UNIVERSITY — 2014-2017
Masters of Science in Computational Design (3.12 GPA)

CARNEGIE MELLON UNIVERSITY — 2008-2013
Bachelor of Architecture with College Honors (3.39 GPA)
Recipient of Design Commends (S'11 & S'12)
Dean's List for seven consecutive semesters (F'09 – F'12)

RELEVANT COURSES

48-624: Parametric Modeling
48-724: Parametric Design
48-789: Shape and Computation
15-102: Exploring Programming with Graphics
15-112: Fundamentals of Programming and Computer Science
15-121: Introduction to Data Structures
15-122: Principles of Imperative Programming
15-214: Principles Object Oriented Software Construction
15-313: Fundamentals of Software Engineering
15-637: Web Application Development

SKILLS

LANGUAGES

Proficient with:

- Java – 6 years
- Python – 4 years
- Javascript – 1.5 years
- HTML/CSS – 3 years
- RAPID (ABB robotics) – 5 years
- G (CNC programming) – 4 years

Familiar With:

- C# – 1 year
- C – 0.5 years
- PHP – 0.5 years

FRAMEWORKS LIBRARIES & TECHNOLOGIES

Java:	Swing, Spark, Encog, Processing
Python:	Django, matplotlib
JS:	jQuery, NodeJS, Socket.io
HTML/CSS:	Bootstrap, Materialize
C:	Arduino

Git, Heroku, Amazon AWS, Gradle, Ant, TravisCI, RabbitMQ, mySQL

SOFTWARE

IDEs & Editors:	CAD/CAM:	Text & Graphics:	OS:
Eclipse	Rhinoceros3D	Adobe Illustrator	Windows
PyCharm	Grasshopper	Adobe PhotoShop	Mac
Sublime Text	RhinoCAM	Adobe InDesign	
Notepad++	MasterCAM	MS Office	
	RobotStudio	Google Apps	
	AutoCad		

HARDWARE

Lasercutter, CNC Mill, 3D printer, 6-axis Industrial Robotic Arm
Full woodshop experience, Mill, Router, Table Saw, Band saw, Drill press, Vacuum Former, and hand tools.

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EMPLOYMENT

CMU – SPECIAL FACULTY INSTRUCTOR — 2016-2017
Taught two courses on digital fabrication equipment and industrial robotics, including associated software, programming, and safety instruction.

IONTANK – SOFTWARE DEVELOPER — Summer 2016
Developed software component for interactive installation and assisted with other software architecting. Technologies used: NodeJS, RabbitMQ, Python, JavaScript, HTML/CSS, shell scripts.

CMU – ROBOTICS FELLOW & DFAB STAFF — 2013-2016
Publish research related to robotics. Develop and deliver software components, course material and other lab infrastructure. Oversee use of equipment, troubleshoot and diagnose machine issues. Augment lab technology, policies, and procedures. Technologies used: Java, RAPID, Arduino/C, Python, PHP.

BIOLOGIC DESIGN GROUP – RESEARCH ASSISTANT — Summer 2013
Developed software to demonstrate PCM energy savings and design tools with performative criteria for group. Technology used: Java.

CMU – DIGITAL FABRICATION LAB: MONITOR — Fall 2009–Spring 2013
Overseeing proper and safe usage of lasercutter, CNC 3–axis mill, 3D printer, Vacuum Former, 6-axis ABB arm. Assist and monitor student lab usage.

FISHER ARCHITECTURE – DESIGN INTERN — Summer 2012
Intern and parametric consult. Led workshops in Rhino and Grasshopper.

CMU – THESIS ADVISER — Spring 2015-2016
Selected by thesis candidates for advising and evaluation. Responsible for offering feedback, critique and consultation on students' work.

CMU – TEACHING ASSISTANTSHIPS: — Fall 2012-2014
Intro. to Architectural Robotics
Architecture Studio: Difficult Synthesis
Fabricating Customization
Materials and Assembly
Intro. to Digital Media

CONTRIBUTIONS & PUBLICATIONS

FREECOL – OPEN SOURCE CONTRIBUTOR — Spring 2016
Contributed to open-source project, developed and merged 2 feature requests. Team project for 15-313 (CMU).

ROBARCH 2016 PUBLICATION — Spring 2016
Authored "Autonomous Robotic Assembly with Variable Material Properties"
Coauthored "RECONstruction"

ROBARCH 2014 PUBLICATION — Spring 2014
Contributed work for "All Bent Out"

ACADIA 2014 PUBLICATION — Spring 2014
Contributed work for "Seeing is Doing"

[EN]CODING ARCHITECTURE PUBLICATION — Summer 2013
Thesis work and cover artwork included in conference publication.

INSTALLATIONS GRANTS & AWARDS

FRANK-RATCHYE GRANT — Spring 2013
Richard P. Geyser Architecture Scholarship Recipient.

FOURTH YEAR DESIGN AWARDS — Spring 2012
Richard P. Geyser Architecture Scholarship Recipient.

THE FRAME GRANT — Spring 2012
Received grant for experimental installation work.

UNEXPECTED MATERIALITY – COLLABORATOR — Spring 2011
Collaborated with artists on installations.

EPIC METALS COMPETITION — Spring 2011
2nd place.