

Andrew Davis - CV

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Education

2018 M.S. in Computer Science | Stanford University
2017 Ph.D. in Music Composition | University of Pennsylvania
2012 M.M. in Music Composition | University of Texas at Austin
2009 B.A. in Music | Yale University

Academic Positions

July 2018 - Present Wellesley College
Lecturer in Computer Science and Media Arts and Sciences

Major Academic Projects

Sept. 2020 - Present *sckernel*: a kernel for Jupyter Notebooks
<https://github.com/andrewdavis33/sckernel>
sckernel is a kernel for Jupyter Notebooks, an online platform for interactive code. Jupyter Notebooks provide a clean, easy-to-read interface for interactive Python code. The framework for Jupyter Notebooks allows for user-written kernels to support programming languages besides Python. *sckernel* integrates with Jupyter Notebooks to provide web-based interaction with SuperCollider.

June 2020 - Present Introductory Resources for DFT Analysis and Synthesis
<https://github.com/andrewdavis33/DFT-Guide>
A comprehensive, introductory guide to Discrete Fourier Transform in the context of audio for musicians and programmers. Much material for signal processing and Fourier analysis is too arcane for introductory students. This guide serves to lead newcomers through an intuitive derivation of the DFT and uses musical examples to articulate important theoretical and practical concepts. Future work for the project involves creating visual demonstrations and short YouTube videos to better illustrate principles of the DFT.

July 2018 - Present Instrument and Effect Software for the SuperCollider Platform
https://github.com/andrewdavis33/sc_library
A repository of musical instruments, synthesizers, and effects written in slang for the SuperCollider platform. Examples of files range from experimental reverberators to traditional 80's synth effects. Future work includes development of Fourier techniques as well as UGens for server-side processing.

Teaching Experience

WELLESLEY COLLEGE

Fall 2018 - Present Primary Lecturer: I have taught all classes below multiple times as the primary lecturer. *Introduction to Computer Music* was designed from scratch by myself, including all slides, assignments, and website. I have taught *Computer Programming and Problem Solving Methodologies* in a team format where multiple instructors teach separate sections of the same course but work together to devise course content and structure as well as manage student needs for an introductory course of over 100 students per semester.

Introduction to Computer Music: <https://cs.wellesley.edu/~cs203/>

Self-designed, interdisciplinary course spanning topics on music, computers and mathematics

Computer Programming & Problem Solving: <https://cs.wellesley.edu/~cs111>

First course in programming for CS majors on programming paradigms, recursion, and data structures

Foundations of Computer Systems: <https://cs.wellesley.edu/~cs240>

An introduction to software systems, machine organization, and architecture, and digital logic

STANFORD UNIVERSITY

Winter 2018 - Summer 2018 Graduate Assistant: I served as a graduate assistant for the courses listed below. My main duties included holding office hours on campus and answering questions about course content through Piazza.

Probability for Computer Scientists: <http://web.stanford.edu/class/cs109/>

A mathematical overview of topics from basic counting to logistic regression

Programming Methodology: <http://web.stanford.edu/class/cs106a/>

First course in programming for CS majors on object-oriented design, decomposition, encapsulation, and abstraction

UNIVERSITY OF PENNSYLVANIA

Fall 2014 - Spring 2016 Graduate Assistant: I taught a range of introductory music courses. Though I was a graduate student, I was the primary instructor for all courses listed below. I was responsible for curriculum development for both musicianship courses.

Introductory Theory and Musicianship

An introduction to the basics of music notation, theory, and ear-training for non-music majors

Music Theory and Laboratory II

Second course in musicianship designed for first-year and sophomore music majors

Music Theory and Laboratory I

First course in musicianship designed for first-year and sophomore music majors

Service Experience

WELLESLEY COLLEGE

Fall 2019 - Present *Tutoring Coordinator*: The tutor coordinator manages tutors across the department and serves as liaison between the department and the learning center on campus that governs tutoring across the College. The tutor coordinator organizes tutor training and coordinates with faculty to hire tutors.

Fall 2019 - Spring 2020 *Curriculum Committee Member*: The Curriculum Committee is responsible for evaluating and amending the department's offering of courses. The Curriculum Committee works with the department's Diversity and Inclusion Committee to assess the impact of the department's offerings on inclusion. During my time on the committee, we submitted a formal proposal to change the introductory sequence from a two-course model to a three-course model to alleviate the quick pace of the sequence and to better match students' previous exposure with CS to the appropriate course. We expect the proposal to be approved and implemented by the College shortly.

Fall 2019 - Present	<i>CS Advisor:</i> CS Advisors advise CS majors and minors by planning out course schedules, advising on internships, and offering advice on career paths. I have advised 11 CS majors and minors during my time as a CS Advisor.
Fall 2019 - Present	<i>First-Year Advisor:</i> First-Year Advisors serve a term of three years and mentor six first-year students each year. First-Year Advisors' are responsible for helping students choose courses that match their interests and ensuring that students understand distributional requirements and create a balanced schedule.
Fall 2019 - Present	<i>CS Poster Advisor:</i> CS Poster Advisors work with two seniors each year and guide them through a year-long project that culminates in department-wide poster session. Topics on which I have advised have ranged from algorithmic design in neuroscience to AI studies on music recognition.

Composition Awards

2021	NYC Contemporary Music Symposium: Finalist - <i>Night Visions</i>
2020	C4's IGNITE Commissioning Competition: Semifinalist
2020	MACRO Composition Contest: Winner - <i>Speechless</i>
2019	Boston New Music Initiative 7th Annual Commissioning Competition: Winner
2018	Sioux City Symphony Orchestra Composer of the Year: Honorable Mention - <i>Seek</i>
2017	Chaosflöte Commissioning Competition: Honorable Mention - <i>I Walk The Path Before Me</i>
2017	American Composers Orchestra Underwood Readings: Honorable Mention: <i>Seek</i>
2016	Luna Nova Composition Contest: 2nd Prize - <i>Hummingbirds</i>
2015	Flute New Music Consortium: Semifinalist - <i>What's Next?</i>
2015	Col Legno duo Composition Contest: Honorable Mention
2015	ASCAP Morton Gould Awards: Finalist - <i>The Deep End</i>
2015	Lyra Society Costello Composition Competition: 2nd Prize
2015	Halstead Prize from the University of Pennsylvania - <i>Nocturne</i>
2014	ASCAP Morton Gould Awards: Finalist - <i>Black Mamba</i>
2013	MACRO Competition: Honorable Mention - <i>Open Airs</i>
2013	BMI Student Composer Award: Finalist - <i>Midnight Drearies</i>
2013	ASCAP Plus Award
2012	ASCAP Plus Award
2012	Boston New Music Initiative Commissioning Competition: Finalist - <i>Black Mamba</i>
2012	Choral New Music Initiative: Winner - <i>Holidays</i>

Commissions

2019	Boston New Music Initiative and Cambridge Chamber Singers: <i>On The Nature of Things</i>
2019	Andrew Harrison, Saxophonist and Mt. San Antonio String Orchestra: <i>Serenade</i>
2017	loadbang and the RED NOTE New Music Festival: <i>Spitballing</i>
2016	Atlantic Music Festival: <i>Hummingbirds</i>
2015	Lyra Society of Philadelphia: <i>Sing Sweetly, Run Swiftly</i>
2014	Michael Harley, Bassoonist of Alarm Will Sound: <i>What's Next?</i>
2014	Alexandra Porter, Soprano: <i>Bamboo Grove?</i>
2013	Alarm Will Sound and the Mizzou International Composer Festival: <i>The Deep End</i>
2012	Charlie Magnone, Pianist: <i>Night Visions</i>

Juried Compositional Festivals And Conferences

2021	SEAMUS National Conference: <i>Pastoral</i>
2021	Earth Day Art Model: <i>Poetry of the Earth</i>
2020	New York City Electronic Music Festival: <i>Poetry of the Earth</i>
2019	TUTTI Festival at Denison University: <i>Nocturne</i>
2017	TUTTI Festival at Denison University: <i>I Walk The Path Before Me</i>
2017	RED NOTE New Music Festival
2016	Belvedere Chamber Music Festival: <i>Hummingbirds</i>
2016	Atlantic Music Festival
2015	World Association of Symphonic Bands and Ensembles: <i>The River Jumped Over The Mountain</i>
2014	Bowling Green State University Graduate Conference: <i>Open Airs</i>
2013	Mizzou International Composers Festival
2013	Manchester New Music Mini-Festival: <i>Funk Off</i>

2013	16th Festival of New Music at FSU: <i>The River Jumped Over The Mountain</i>
2012	New Music on the Point Festival
2011	SEAMUS/ASCAP Festival: <i>Spratonic</i>

Conference Presentations

Davis, Andrew (2021). *Integrating SuperCollider with Jupyter Notebooks*. Presented at the 2021 SEAMUS Virtual National Conference, USA.

Compositional Discography

2020	"Night Visions". Petrichor Records; <i>New Music by Living Composers</i> . Category A - Solo Piano
2017	"Five Poisons". Andrew Harrison and Clare Longendyke; <i>In the City: New Works for Saxophone and Piano</i>
2016	"Funk Off". The TC4; <i>TC4</i>
2014	"Black Mamba." Contemporary Art Music in Texas; Limited Distribution for the 2012 ISCM World Music Days

Score Publications

2016	"Sing Sweetly, Run Swiftly". Fatrock, Inc.
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Guitar Discography

2019	Hawk Tubley and the Ozymandians: <i>Chocolate Maple Squeeze Play</i>
2016	Hawk Tubley and the Ozymandians: <i>Pond Kings in April</i>

Notable Performing Groups

- Alarm Will Sound
- PRISM Saxophone Quartet
- Daedalus Quartet
- ETHEL Quartet
- JACK Quartet
- Aizuri Quartet
- loadbang
- Argento Ensemble
- Curtis Symphony Orchestra
- Skyros Quartet
- Florida State Wind Ensemble
- Yale Concert Band

Grants

2014	American Composers Forum Philadelphia Subito Grant
2013 - 2017	Benjamin Franklin Scholarship at the University of Pennsylvania
2010 - 2012	Kent Kennan Endowed Graduate Fellowship

Artistic Residencies

2017	Atlantic Center for the Arts
2016	ACRE
2015	Atlantic Center for the Arts

Miscellaneous

2009	Assistant Producer for NFL Films Emmy Nomination for NFL Weekly Countdown
2009	Intern at Strathmore Center for the Arts
2008	Intern at Wolf Trap National Park for the Performing Arts

Software Engineering Skills

- **Music Programming Languages**
SuperCollider, Max/MSP, ChuckK
- **Programming Languages**
C, C++, Python, Java, MATLAB
- **Web Development**
HTML5, CSS3/SASS, JavaScript, Jekyll

Professional Societies and Affiliations

- ASCAP
- ACM
- American Composers Forum
- SEAMUS (Society for Electroacoustic Music United States)

References

Name: Anna Weesner
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