

# DILLON ACKER-JAMES

[www.linkedin.com/in/dillonackerjames](http://www.linkedin.com/in/dillonackerjames)

Dillon.acker.james@gmail.com

## EDUCATION

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Ph.D Electrical Engineering  
July 2019—Present  
*University of California, Berkeley*

B.S. Electrical Engineering  
June 2019  
*University of California, Santa Barbara*

## EXPERIENCE

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**GRADUATE STUDENT RESEARCHER IN PISTER LAB** July 2019—Present  
*University of California, Berkeley*

- Independently and collaboratively designing and fabricating MEMS devices
- Integrating CMOS technology into underutilized Si MEMS structures
- Building on previous, and creating new, processes in order to build more functional microrobots

**MEMS AND SENSOR DESIGN ENGINEER** May 2021—August 2021  
*Iota Biosciences*

- Independently devised and ran a new cleanroom process for medical devices in a start-up timeline
- Designed and fabricated working prototypes in this new process
- Created design rules, scripted layout and wrote an extensive guidebook on how to run the process

**APPLE ESD INTERN IN SEG-ANALOG** June 2020—August 2020  
*Apple Park, Cupertino (Working from home)*

- Wrote a Python wrapper to increase automation, decrease IP visibility and prepare for system migration to Python
- Learned Perl, Python, basics of ESD software, and fundamentals of ESD design

**ELECTRICAL AND MATERIAL CHARACTERIZATION INTERN** June 2018—June 2019  
*Mishra Group at University of California, Santa Barbara*

- Extensively performed electrical measurements [I-V, C-V, and temperature-dependent I-V measurements] as low as 80K and characterized fabricated nano-devices with SEM and FIB-SEM (feature size as low as 80nm)
- Developed Matlab script to analyze raw electrical data and extracted useful electrical characteristics such as charge, mobility sheet resistance, doping, contact resistance, etc.

**SUMMER INTERN AT VASCULAR BIOSCIENCES** July 2017—September 2017  
*University of California, Santa Barbara*

- Took a vacuum forming project from conception to construction to ship catheters
- Computed effectiveness of pulmonary hypertension drugs at different time points by compiling gene data from experiments

**ECE UNDERGRAD LAB CLASSES** September 2016—June 2019  
*University of California, Santa Barbara*

- Headed team of 5 who designed and fabricated circuits on Si wafer in 20-week timeframe
- Lead engineer on a year-long senior project tasked to design a 3D printed enclosure and custom PCB for a battery management device to support new power-dense battery technologies

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## EUREKA SUMMER INTERNSHIP/BREWER LAB

June 2016—August 2016

*University of California, Santa Barbara*

- Selected for a highly competitive program to develop professional skills in a research lab
- Sharpened presentation skills by showcasing my work to peers, professors and industry members via weekly meetings, poster board presentation, an overview talk and technical demonstrations

## CSEP'S SUMMER INSTITUTE IN MATHEMATICS AND SCIENCE

June 2015

*University of California, Santa Barbara*

- Selected for a highly competitive and intensive program that included academic classes, scientific writing training and an oral research project presentation.
- Attended seminars to learn how to communicate scientific information clearly and effectively

## SKILLS AND CLEANROOM EXPERIENCE

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- Concise communication, Python, MATLAB, Perl, C++, Coventorware Simulation, Automated Mask Design.
- ALD, Sputtering, HIPIMS, Evaporation, LPCVD, PECVD, DRIE, Plasma Etching, Annealing, Lithography, Dicing, HF, KOH, TMAH, SEM, FIB.

## PUBLICATIONS

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- *Single-chip micro-mote for microrobotic platforms*
  - Alex Moreno, Filip Maksimovic, Lydia Lee, Brian Kilberg, Craig Schindler, Hani Gomez, Daniel Teal, **Dillon Acker-James**, Andrew Fearing, J ea Rentmeister
- *15 Millinewton Force, 1 Millimeter Displacement, Low-Power MEMS Gripper* presented at MEMS 2020, Toronto Canada
  - Craig B. Schindler\*, Hani C. Gomez\*, **Dillon Acker-James**, Daniel Teal, Wei Li, and Kristofer S. J. Pister
- *First experimental demonstration of enhancement in hole conductivity in c-plane (0001) III-Nitrides with uniaxial strain* presented at IWN 2018, Kanazawa, Japan. Manuscript under preparation for journal submission.
  - Chirag Gupta, Yusuke Tsukada, Brian Romanczyk, Shubhra S. Pasayat, **Dillon Acker-James**, Stacia Keller and Umesh K Mishra
- *Ultra-high silicon doped Nitrogen-polar GaN films grown by Metal-Organic Chemical Vapor Deposition*
  - Nirupam Hatui, Atith Krishna, Chirag Gupta, **Dillon Acker-James**, Stacia Keller and Umesh K. Mishra
- *Fabrication of relaxed InGaN pseudo-substrates composed of micron-sized pattern arrays with high fill factors using porous GaN*
  - Shubhra Pasayat, Chirag Gupta, **Dillon Acker-James**, Daniel Cohen, Steven P DenBaars, Shuji Nakamura, Stacia Keller and Umesh K Mishra