# Sunay Bhat

*Santa Barbara, CA 93105 • 865.898.4443 • sunaybhat1@gmail.com • www.sunaybhat.me*

## EDUCATION AND RESEARCH

**University of California, Los Angeles** **Los Angeles, CA**

***Electrical and Computer Engineering MS/Ph.D. Student*** *09/2020 – Expected: 05/2024*

- Masters in progress (Est. Complete: June 2021) in Signals and Systems area with a focus on Reinforcement Learning, Optimization, Information Theory, Networks, and Controls Theory
- Research areas include Reinforcement Learning and Casual Inference, Transfer Learning, and Game Theory with a focus on strategy games and human-machine interfaces to improve student educational outcomes and concept comprehension with Artificial Intelligence (AI) algorithms
- Department fellowship recipient for 2020/2021 academic year requiring high academic performance

**University of Tennessee, Knoxville (UTK)** **Knoxville, TN**

***B.S. in Electrical and Computer Engineering, Summa Cum Laude*** *08/2013 – 05/2017*

- Focus in embedded systems design, signal processing, and controls
- UTK Chancellor's Honors for Outstanding Academic Achievement and Scholar Athlete

*Part-Time Research Assistant for UTK Nonwovens Research Laboratory* *08/2014 – 05/2016*

- Evaluated conductivity of carbon nanotube (CNT) yarns and graphene reinforced polymeric fibers for potential applications in fiber-based circuit design

## INDUSTRY EXPERIENCE

**Lockheed Martin - Santa Barbara Focalplane** **Goleta, CA**

***Electro - Optical Systems Engineer*** *06/2019 – 09/2020*

- Directed technical operations as lead engineer on site's largest production program manufacturing cryo-cooled, mid-wave infrared photodetector systems
- Led implementation effort for cutting-edge detector material including development of test methodology, radiometric characterization, semiconductor processing, and defect mitigation in order to meet major site milestone and cost savings initiatives
- Submitted multiple engineering notebooks and white papers for review researching process improvements, system characterization methods, and image processing algorithms
- Managed and trained a team of 8+ engineers across all technical projects, production support, and cross-site engineering efforts

***Test and Systems Integration Engineering Associate*** *09/2017 – 05/2019*

- Analyzed radiometric and system performance data for infrared detectors at various assembly levels and provided production support for focal plane arrays in cryo-cooled systems
- Guided major wafer process improvement initiatives to mitigate and eliminate defects during detector fabrication
- Created an interactive radiometry algorithm glossary and detector defect glossary to centralize site research and documentation for both management and new engineers
- Completed cost-savings packages to improve yields of final product, including a customer test-requirement change based on an in-depth analysis of unnecessary specifications

**Red Ribbon Recruiting, LLC, *Co-Founder* - Los Angeles, CA** *09/2018 – 01/2020*

- Analyzed competition data to deliver advanced evaluation tools and interactive reports on team performance and scoring opportunities for collegiate coaching programs
- Identified recruiting opportunities for coaches using predictive models and algorithms

**Nano Terra Inc., *Electrical Engineering Intern* - Cambridge, MA** *06/2016 – 08/2016*

- Designed and prototyped an embedded system chemical sensor using PCB CAD tools and C++ software resulting in an order of magnitude increase in data transmission rates

**Oak Ridge National Laboratory, *Research Assistant* - Oak Ridge, TN** *07/2014 – 08/2014*

- Assisted research with 3-D printers on graded composition microstructure as a function of thermal cycling

## TECHNICAL SKILLS/QUALIFICATIONS

**Clearances**

- Active *Secret* Security Clearance (from September 2018)

**Programming and Software**

- Proficient: Python (machine learning, data analytics, graph theory), MATLAB (radiometric calculations, data analysis, production instrument control, machine learning)
- Experienced: R (graph theory, data analytics), C++ (embedded systems, coursework), Atlassian (Jira, Confluence, Bitbucket)

**Hardware**

- Industry and academic lab experience with clean rooms, microscopes, machining tools, sample prep, etc.
- Extensive support of power supplies/analyzers, Digital Multi-meters, wafer probers, etc.
- Radiometry and optics testing equipment, Environmental stress screening equipment

## HONORS/LEADERSHIP/COMMUNITY

- STEM Solutions Policy Proposal, Semi-Finalist (policy co-Author for CA legislator) *2021*
- Mentor and volunteer for non-profit organizations Chibo and T'ena Foundation *2020- Current*
- Organized annual Engineering Week involving multiple STEM community outreach events *2018*
- Lockheed Martin Performance Excellence annual award recipient *2018*
- UTK Student Athlete on Varsity Tennis Team *2013-2017*
  - Team Captain *2016-2017*
  - Four-Time SEC and ITA Scholar Athlete Award *2013-2017*
  - NCAA 'Sweet Sixteen' Team Appearance *2014*
- Member of Student-Athlete Advisory Committee with 50+ hours of community service *2015-2017*

## PUBLICATIONS

Azari, H., Bhat, G., Hiremath, N. **Bhat, S.** (2017) Structure and Properties of Polypropylene Graphene Composite Filaments. *Proceedings of the Fiber Society 2017 Fall Meeting and Technical Conference*, Athens, GA (November 2017).