

MATTHEW BARNARD

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Visit me at www.murphysys.com for more about some of my projects.

Education

ARIZONA STATE UNIVERSITY, Tempe, AZ

Bachelor of Science, Mechanical Engineering – 3.83 GPA 2021 – Present

MARICOPA COMMUNITY COLLEGES, AZ

Mechanical Engineering Undergraduate Transfer Program – 3.91 GPA 2019 – 2021

- Phi Theta Kappa Honor Society, Omicron Beta Chapter

ARIZONA STATE UNIVERSITY, Tempe, AZ

Master of Science, Electrical Engineering (*Incomplete*) 2013 – 2015

- Patent granted: [US10291696B2 Peer-to-peer architecture for processing big data](#)
- IEEE Publications: 53rd Annual Allerton Conference on Communication, Control, and Computing
 - [Decentralized scheduling with data locality for data-parallel computation on peer-to-peer networks](#)
 - [Architecture and implementation of an information-centric device-to-device network](#)

I entered this program on invitation from EE faculty after I assisted their students on a software project. I chose to leave the program early because, while my research was going well, I was not prepared to complete the graduate-level coursework. I've since returned to school to strengthen my foundations in math and physics so I can contribute on the topics that I'm passionate about. I intend to complete a graduate degree in the foreseeable future.

Bachelor of Science, Biology – 2.42 GPA 2010 – 2013

- International Union for the Study of Social Insects – Best Undergraduate Poster Winner
 - United States Army Research Office Travel Grant
- Animal Behavior Society – Best Undergraduate Poster Nominee

I majored in biology because I wanted to apply my technical skills to study highly dynamic and complex natural systems. I spread myself between classes, research, social development, athletics, and a job outside of school—taking on a load that I was not yet ready to manage. My grades reflect that I struggled to balance all of my goals and obligations and still excel in the classroom; regardless, I'm very proud to have finished, and the experiences and lessons I've brought with me are invaluable.

SOUTH MOUNTAIN COMMUNITY COLLEGE, Phoenix, AZ

Associate of Science with High Distinction,

Associate of Arts with High Distinction – 3.85 GPA 2008 – 2010

- President's List
- Research grants: *Evolutionary Computer Graphics* and *Teaching Physics with Computer Games*
- In-class teaching assistant/tutor for grade 5 math

Work Experience

Director of Operations – Evolution Motorsports, Phoenix, AZ 2016 – Present*

We're a two- to four-person operation selling custom and third-party aftermarket performance parts in the Porsche, VW, Audi, McLaren, Maserati, Mercedes, Lamborghini, and Ferrari markets. We ran a shop in Arizona until late

2019 where we built high-power street and race cars primarily in the Porsche, McLaren, and Audi markets; it's since been relocated to Washington.

*Since 2019 I no longer have an active role, but I continue to work with my partners on a consultation basis.

- Managed vendor relations, ordering, and manufacturing to fulfill \$80,000 in average monthly sales.
- Responsible for bringing new products to market including rapid prototyping, design for manufacturing, manufacturer relations, process optimization, and developing marketing material.
- Responsible for process in sales, purchasing, manufacturing, warehousing, and shipping.
- Responsible for office, warehouse, and shop facilities, maintaining shop equipment, and safety.
- Trained new office employees; trained and managed shop intern.
- Designed and fabricated one-off metal parts for street and race cars (Porsche, McLaren).
- Designed and built electronic fuel control system for record-setting power in a modern Porsche street car.
- Modified, diagnosed, and repaired street and race cars.
- Assisted with phone and internet sales and customer service.
- Designed and prototyped sheet, tube, and cast metal parts for partners in off-road aftermarket.

Graduate Researcher – Arizona State University

2013 – 2015

Lab of Dr. Lei Ying:

- Originated mobile ad-hoc content-centric network with novel network protocol; developed clients for Windows, Linux, Android, and simulation environment.
- Designed and developed distributed database and peer-to-peer processing platform to implement a fellow student's novel scheduling algorithm (patented work).
- Designed and developed network framework for a peer's implementation of a novel privacy scheme.
- Developed social network web scraper with graph analysis and visualization tools for peers in Machine Learning.
- Developed consolidation tools for in-house research data and maintained lab code library and standards.

Staff Researcher – Arizona State University

2010 – 2014

Lab of Dr. Jennifer Fewell

- Led multi-year behavioral and genomic study in California and Arizona.
- Worked in multidisciplinary teams of two to fifteen on behavior and genomic experiments.
- Engaged in STEM outreach and education in field site communities and with K-12 students.
- Prototyped data collection, analysis, and reporting software for animal behavior experiments.
- Developed automated image analysis tools looking at insect colony growth and DNA sequence gels.

Lab of Dr. Jon Harrison

- Maintained populations of genetic mutant fruit flies for use in post-doctoral research.
- Developed motion-quantizing tools for analyzing animal behavior videos.
- Provided experimental and technical support to small teams of researchers.

Barista – Starbucks, Phoenix, AZ

2010 – 2012

Warehouse Supervisor – Goodwill Industries, Corvallis, OR

2009 – 2010

Service Tech – Best Buy Geek Squad, Phoenix, AZ

2006 – 2007

Volunteerism

Postoperative Care – Mission of Mercy, Phoenix, AZ

2016 – Present

Science Education – Arizona Wilderness Coalition

2016

Youth Environmental Education and Service, Wilderness Stewardship Program

Exhibit Guide – Arizona Science Center

2004 – 2005

Food Distribution, Guadalupe Community Program – Tempe Vineyard Church

1999 – 2002