

MATTHEW BARNARD

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

Education

MARICOPA COMMUNITY COLLEGES, AZ

ASU Mechanical Engineering Undergraduate Transfer Program 2019 – Present

ARIZONA STATE UNIVERSITY, Tempe, AZ

Master of Science in 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](#)

Bachelor of Science in Biology 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

SOUTH MOUNTAIN COMMUNITY COLLEGE, Phoenix, AZ

Associate of Science with High Distinction,

Associate of Arts with High Distinction 2010

- President's List three years
- 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 of Arizona, 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 also ran a shop until late 2019 where we built very-high-power street and race cars primarily in the Porsche, McLaren, and Audi markets.

*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 race and street 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.
 - More than 30 of my part designs are in products currently on the market, approx. \$50,000 per month.

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.

Research Assistant (paid positions) – 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 students 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 for 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 Educator – Arizona Wilderness Coalition

2016

Youth Environmental Education and Service, Wilderness Stewardship Program

Exhibit Guide – Arizona Science Center

2004 – 2005

Food Distributor, Guadalupe Community Program – Tempe Vineyard Church

1999 – 2002