

Amira Malik

amiramalik.com ♦ amiramalik33@gmail.com

Education

MIT BS, Aerospace Engineering

National Test Pilot School Short Courses: Operation / Test Management, Fixed Wing Performance

Sea Trials / Flight Test



Lighter Than Air, Senior Flight Test Engineer

Feb 2026 – Now

- Leading / mentoring engineers in **performance-based testing of the largest aircraft in the world**
- Planning & executing multi-day flights and overnight deployments



REGENT, Led Sea Trials

May 2023 – Jan 2026

- **Test Director**: ran events of the Aircraft, 2 Chase Boats, & Control Room (28+ people per event)
- Developed and **executed ISR & SAR demo** supporting Marine Corps contract deliverables
- During a year-long Sea Trial, prioritized schedule, vehicle readiness, available assets, and program risk
- **Managed multiple emergency responses**, root-cause investigations, and internal/external reports
- Defined playbooks for on-water events to enforce a reliable schedule and strong deliverables to engineering
- Debriefed and adjusted “right size” processes to tune the balance of speed & risk mitigation



New Vehicle Development

REGENT, Instrumentation & Telemetry

10-month project

- **Led embedded system efforts** for instrumenting a vehicle with analog, serial, and fiber optic sensors
 - 60+ sensors reporting 5000+ parameters at ~20 Hz between multiple vehicles
 - **Built a system while requirements were unknown**, solicited and triaged requests from company
 - Designed, built, tested, and installed flight-approved wire harnesses and sensors
 - Maintained software unit testing, requirements tracking, sensor pedigree, and inventory tracking
- **Managed ~6 engineers** and maintained knowledge transfer in an evolving team
 - **Juggled engineers' career development, system requirements, and delivery timeline**
 - Managed external contract with SaaS providers on data management (hard drives → database → visualizer)
 - Managed feature requests during sea trials, developing & releasing software periodically

Simulation, Modeling, Controls

2-year project

- Wrote monte carlos & multivariate tests for performance prediction for the vehicle's Sea Trials
- Wrote Simulink tests for requirements validation; developed unit testing and CI/CD pipelines
- Designed multi-effector low-speed control for a blown-wing aircraft (patent pending)

Beta Technologies, Airframe Project Manager

June 2020 – Sep 2021

- **Managed 4 engineers, a contract manufacturer, and a fleet of 8' 55lb eVTOL drones**
- Test Conductor for >200 eVTOL transitions in 450 days (autopilot integration, control law eval., & more)

Occasional Consulting Work

- Consulted on vehicle simulations, performance sensitivity analysis, multi-dimensional optimization / MBD
- **Over 350 hrs of flying experimental vehicles** in autonomy, swarming, payload delivery, and more

Key Skills

- **Simulation**: Finite Element, Trajectory Modeling, CFD (Panel Method, RANS)
- **Numerical Analysis**: Optimization, Sensitivity, Response Surface, Gradient Descent
- **Composites**: Laminate Theory of Shells & Plates, 3D Parametric Surface Modeling
- **Fabrication**: CNC Manufacturing & Processing, DFM / DFA / DFSC
- **Software**: MATLAB, Python, Simulink, NX / Onshape, Bash / Shell / CLI, Nominal / IADS

Hobbies :)

