Affan Adly Bin Nazri

Scientific Programmer | Research Software Developer | Open Source Contributor
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PROFESSIONAL SUMMARY

Programmer and scientific software developer with strong Python expertise and experience supporting research and administrative workflows in a university environment. Skilled in data analysis, automation, dashboard development, Linux-based systems, and collaborative software development. Experienced in documentation, user support, and maintaining reproducible, long-term software systems.

TECHNICAL SKILLS

SOFTWARE DEVELOPMENT & AUTOMATION

- Advanced Python programming for scientific and administrative applications
- Development of maintainable scripts, tools, and automated workflows
- Experience translating user and departmental requirements into working software

DATA ANALYSIS & VISUALISATION

- Processing and analysis of large datasets
- Numerical and statistical analysis workflows
- Data visualization for reporting, monitoring, and decision support
- Emphasis on reproducible and traceable analysis

WEB TOOLS & DASHBOARDS

- Development of interactive dashboards and internal tools using Dash and Plotly
- Automation of data collection and web-based workflows
- Design of user-facing tools for non-technical stakeholders

SYSTEMS, INFRASTRUCTURE & TECHNICAL OPERATIONS

- Linux and Windows environments
- Version control with Git/GitHub
- Virtual environments and containers (venv, Docker)
- Virtualization platforms (Proxmox VE, VirtualBox)
- Secure remote access and data transfer (SSH, rsync, FTP/SFTP)

DOCUMENTATION, SUPPORT & COLLABORATION

- Technical documentation using LaTeX and Markdown
- Support for students and staff with varying technical backgrounds
- Administrative data tools (Excel and Google Sheets automation)

SELECTED PROJECTS

AUTOMATED RFI MONITORING SYSTEM

Python, Linux

- Architected a fully automated pipeline for continuous radio-frequency interference monitoring
- Integrated remote data ingestion via FTP and VPN tunneling with scheduled processing on Linux systems
- Implemented centralised compilation, analysis, and archival of monitoring data
- Generated standardised reports and dashboards to support long-term operational monitoring

POSTGRADUATE STUDENT PROGRESS DASHBOARD

Google Sheets, Google Forms

- Designed a Google Sheets administrative dashboard to track postgraduate milestones
- Deployed Google Forms for structured weekly reporting by students
- Applied data validation, conditional formatting, and visual summaries for progress assessment
- Supported real-time oversight and reporting for academic supervisors

JOURNAL CLUB POSTER GENERATOR

Python, LaTeX

- Developed a Dash-based interface for automated generation of academic posters
- Translated user input into reproducible LaTeX templates for consistent branding and layout
- Streamlined PDF production for recurring departmental events

FRB DETECTION PIPELINE

Python, C++

- Implemented a standalone FRB detection pipeline with performance comparable to established frameworks
- Integrated signal-processing stages including dedispersion, matched filtering, and candidate selection
- Prioritized robustness, reproducibility, and reduction of false positives

BLITZ.GG WEB SCRAPER & ANALYTICS TOOL

Python

- Engineered a Selenium-based web scraper for structured data collection from dynamic web platforms
- Performed downstream analysis and visualization of performance metrics using Dash
- Enabled longitudinal tracking of user trends and statistics

WORK EXPERIENCE

RESEARCH ASSISTANT TRAINEE

Radio Cosmology Research Laboratory, Universiti Malaya *July - September 2021*

- Supported grant preparation and documentation workflows
- Assisted with student supervision and technical troubleshooting
- Managed websites and digital resources for the laboratory
- Organised academic events and meetings
- Prepared reports and administrative documents

EDUCATION

UNIVERSITI MALAYA

Doctor of Philosophy in Physical Sciences (Astrophysics) *2022 - Present*

Dissertation: "Study of Massive Young Stellar Objects: RCW 142"

UNIVERSITI MALAYA

Bachelor of Science in Physics *2018 - 2022*

Thesis: "Fast Radio Burst Detection with Python Language Burst"
CGPA: 3.94/4.00 (First Class Honours)

PUSAT ASASI SAINS UNIVERSITI MALAYA (PASUM)

Foundation in Physical Sciences *2017 - 2018*

CGPA: 4.00/4.00

SELECTED PUBLICATIONS

Full lists on Google Scholar, ORCiD, and Scopus

- Lim, M.-K., Yadav, R. K., Dewangan, L. K., Kim, K.-T., Zavagno, A., Maklai, J., … Sharma, S. (2025). FIRESTORM I: Stellar feedback and gas kinematics in the evolved W40 hub-filament system. *Monthly Notices of the Royal Astronomical Society*, *545*(4). doi:10.1093/mnras/staf2218
- **Nazri**, **A. A.**, Abidin, Z. Z., Mat Sabri, M. R., Rosli, Z., Hassan, M. S. R., Mohd Radzi, M. S., … Dong, L. (2025). Temporal variability in low-frequency radio interference: Insight from high-cadence monitoring at a candidate radio notification zone in Malaysia. *Advances in Space Research*, *76*(3), 1832–1853. doi:10.1016/j.asr.2025.05.035
- Rosli, Z., Burns, R. A., **Nazri**, **A. A.**, Sugiyama, K., Hirota, T., Kim, K.-T., … Abidin, Z. Z. (2023). Limits of water maser kinematics: Insights from the high-mass protostar AFGL 5142-MM1. *Monthly Notices of the Royal Astronomical Society*, *527*(4), 10031–10037. doi:10.1093/mnras/stad3767
- Zhou, D., Greve, T. R., Gullberg, B., Lee, M. M., Mascolo, L. D., Dicker, S. R., … Ibrahim, U. F. S. U. (2024). The RAdio Galaxy Environment Reference Survey (RAGERS): Evidence of an anisotropic distribution of submillimeter galaxies in the 4C 23.56 protocluster at $z = 2.48$. *Astronomy & Astrophysics*, *690*, A196. doi:10.1051/0004-6361/202348500

AWARDS & HONOURS

- Bachelor's Degree with First Class Honours, Universiti Malaya (2022)
- University Book Prize, Universiti Malaya (2022)
- Dean's List, Faculty of Science, Universiti Malaya (6 semesters, 2018 - 2022)
- PASUM Top 20 for Physical Sciences, Pusat Asasi Sains Universiti Malaya (2018)
- National Science Challenge 2015 - State Champion (Selangor), First Runner-up (National)

SERVICE, LEADERSHIP & ACTIVITIES

- Co-Chair, JCMT Users Meeting 2024 - Technical, logistics, creative, and scheduling
- Logistics Lead, International Astronomical Union (IAU) Symposium 377 - Technical and creative
- Local Organizing Committee roles for various international and national academic workshops and conferences
- Vice Secretary and Facilitator, Let's Talk Physics outreach programme
- Committee Member, Persatuan Fizik Universiti Malaya (PERFUM), Universiti Malaya