

Suhail Ghafoor

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Over a decade of experience in various disciplines of computer science enables me to augment the performance of any team. Accomplishments range from being a full stack developer to super charging bioinformatics research projects.

Work

Center for Evolution and Medicine at Arizona State University **Manager IT (2019-Present)**

My job responsibilities have morphed over the past 5 years and can be grouped into 6 distinct categories.

Customer relationship management:

- Created and maintain AJAX based web form that allows user to subscribe to our Business Unit's salesforce marketing cloud without a manual process.
- Maintain validity of the center's subscription lists in Salesforce Marketing Cloud and Physical mailing list in Airtable.
- Import and export larger lists for special events including March Mammal Madness.
- Migrate center's CRM data and merge it with ASU's new salesforce instance.
- Run reports in Salesforce Marketing cloud to track users' interaction with the center's communications.

Database management

- Built custom reports and automations for the center to pull relevant data from ASU's data warehouse. These reports include financial, human resources and educational data.
- Worked with project managers to purchase university wide tool for managing labs data.
- Management (migrations, backups, permissions) of Gelada research database. Integrating google SSO.
- Work with faculty to run create and run custom database schemas and views.
- Create, run and diagnose scripts for interacting with LMS using Canvas API.
- Migrating databases from MS Access to custom self-hosted solution CASCADE. Setup accounts, documentation and schema.
- Setup relational lists within the center's intranet for keeping track of assets, financial accounts, offices/labs and personnel.

Research consultations

- Manage CEM's storage on Agave and GDrive, managing permissions for labs, tracking data usage. Create automation scripts for said tasks and for moving colossal datasets between GDrive and Agave.
- CIDSE Capstone sponsor for 2 groups of computer students over 2 semesters. Researched solutions, guided students, met regularly to evaluate and guide the projects.
 - **Student team 1** developed wingqt – Software that utilizes computer vision to count the number of mosquito eggs and length a mosquito wing in a given photo. Has the option to batch import and export results

- **Student team 2** developed Azure Kinect Judge – Utilizing the powerful camera of Azure Kinect, this software can judge how well a person is juggling based on our defined metrics.
- Created custom pipelines requested by faculty and trainees for research projects for various types of DNA analysis including modern, ancient, single ended and pair ended.
- Fixed and expanded the functionality of population simulation scripts written in Eidos.
- Created scripts for running pipelines in parallel on Open Science Grid.
- Provide consultations to the center's labs for diagnosing and improving the functionality of bioinformatics scripts.

Server administrator

- Setup infrastructure for creating a CEM self-hosted bare-metal servers and virtual machines for specialized purposes. Work with network vendor to maintain specialized firewall rules to allow external, internal and VPN connections to specific machines. Setup hypervisor with regular VM snapshots that are backed up externally.
- Setup virtual machines for research database hosting for ancient DNA lab and gelada behavior project.
- Setup CEM inherited research cluster, purchasing/repairing missing hardware, software/networking/hardware considerations.
- Purchased and setup an external cloud compute instances for hosting production databases for Gelada project.
- Setup image hosting tool for Gelada project that is externally accessible.

Manager IT

- Manage CEM's software licenses and hardware, computer and device inventory management and permissions.
- Manage budget for IT purchases.
- Provide specialized support to two new undergraduate level biology courses *SEA-PHAGES I - Phage Discovery* - BIO-498 and *SEA-PHAGES II - Computational Genomics* - BIO-498 PHAGE (HHMI sponsored class) Worked with instructor and students with installing special software and providing individual support
- Setup enterprise tool Landscape on CEM's servers for managing CEM's linux machines that are unsupported by UTO. Have the ability to monitor, run updates and reset passwords.

Center for Evolution and Medicine

Student Web Developer (2015-2019)

- Serve as tier 1-2 support for all computing issues at CEM
- Ensure all department technologies are compliant with ASU computing, data, and security policies. Liaison for CEM for population genomics computing cluster.
- Regular repair and maintenance of computing equipment in three CEM meeting rooms
- Arrange requirements for special events like conference phones, video streams, video conference, and response systems
- Create and apply graphics for social media and ASU events platform
- Maintain the department's YouTube channel
- Migrated newsletter platform from MailChimp to ASU's marketing cloud account

- Created and maintained over 5 websites for the center and its various projects with each website following the university's brand guidelines and adhering to security policies. These websites also had specialized features such as custom RSVP system, commerce management system and invoice generation.

Pakistan Muslim League Noon

Online Presence Manager (2012-2015)

- Assisted with the party's campaign during the 2014 presidential election which the party ended up winning eventually.
- Created and managed custom software and templates that allowed party to stream live events to the supporters over internet and hold live QA sessions.
- Managed the dissemination of press releases to print, social and tv media.
- Rehailed the party's website adding additional features such as membership forms, campaign material and press kits.

Freelance and Contract projects

(2008-Present)

I have completed over a dozen freelance projects in multiple countries related to web development. Complete portfolio available on my website.

1. **TheInnerDancer:** Created a custom LMS in PHP for this dance studio. Features included video resume, overall progress tracker and one button checkout. (theinnerdancer.com/)
2. **FactFocus:** A journalism website with the ability to sustain traffic from viral news stories. The project also included custom analytics and mobile apps for iOS and Android. (factfocus.com/)
3. **AMWA:** Volunteer web developer for this Arizona based charity with a mission to empower women. (https://amwaaz.org/)

Research

Emery, M.V., Bolhofner, K.L., **Ghafoor, S.**, Winingear, S., Oldt, R., Kanthaswamy, S., Buikstra, J.E., Fulginiti, L., and Stone, A.C. 2020. Characterizing DNA Degradation in Severely Burned Human Skeletal Remains Using STR Genotyping and NGS Targeted Capture Techniques. Abstract accepted by American Association of Physical Anthropologists for podium presentation. Los Angeles, California, April 15th – 18th, 2020.

Emery MV, **Ghafoor S**, Bolhofner K, Winingear S, Oldt R, Kanthaswamy S, Buikstra J, Fulginiti L, Stone AC. 2021. Whole Mitochondrial Genome Assembly from Highly Incinerated Forensic Bones and Teeth. *Forensic Science International: Genetics. In preparation*

Emery MV, **Ghafoor S**, Bolhofner K, Winingear S, Oldt R, Kanthaswamy S, Buikstra J, Fulginiti L, Stone AC. 2021. Targeted Enrichment of Whole Genome SNPs From Burned Victims. *Journal of Forensic Sciences. In preparation*

Education

Bachelor of Computer Science – **Arizona State University, 2015-2019**

Bachelor of Applied Psychology – **Punjab University, 2012-2014**

Volunteer

Undergraduate researcher – [Sex Chromosome Lab, Aug 2017-May 2019](#)

Cybersecurity researcher – [CYSIS Lab, Jun 2016-Aug 2016](#)

Skills

Web development

Objected-Oriented Programming

Database design and management

Video editing and streaming

Graphics design

Computer repair and maintenance

UI/UX designing

Binary analysis

Computer network and security

Waterfall and Agile development

Task automation

OS Windows, Mac, Ubuntu, CentOS, Debian, iOS

Frameworks Wordpress, WooCommerce, Drupal, HuGo, Django, OpenScholar

Tools Amazon AWS, Slurm, Pantheon, Webmin, Salesforce, ExactTarget, Mailchimp, Sendgrid, Zapier, rest API, EmailOnAcid

Software Adobe Fireworks, Premiere Pro, After Effects, Eclipse, JetBrains software, XCode, VMWare, Hyper-V, iptables

Languages PHP, javascript, jquery, ajax, websockets, CSS, Java, C, C++ , Prolog, Lisp, Go, NodeJS, JSON, XML, Python, Assembly, AppleScript, Bash, SQL, LaTeX, OCaml, Scheme, Swift, Git, Markdown